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CLINICAL PROBLEMS OF THYROTOXICOSIS

BY

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(WITH SPECIAL PLATE)

Among the many interesting problems of thyrotoxicosis there is none more urgent and more obscure than the high and rapidly increasing death rate. During the year 1936 no fewer than 1,696 deaths were attributed to that condition in England and Wales. There has been a steady rise for many years, the exact figures being:

Year	1913	1914	1915	1916	1917	1918	1919	1920	1921	1922	1923	1924
Males	42	38	32	47	40	46	56	46	54	63	56	46
Females	368	434	400	399	395	357	473	464	533	590	569	574
Year	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936
Males	64	84	91	119	128	112	138	165	168	181	183	208
Females	630	743	852	933	936	1114	1162	1239	1244	1315	1378	1488

It is a curious fact that during the last ten years the operation for the cure of thyrotoxicosis has attained its peak of excellence, and has been pronounced the safest operation in major surgery. No agreement has been reached as to how to explain this wide gap between the magnificent possibilities of major surgery on the one hand and the rapidly rising mortality on the other. The main purpose here is to examine and discuss this problem. The primary method of approach has been by an investigation of the deaths during 1936. Through the courtesy of the Registrar-General I was furnished with the particulars of each death in England and Wales during that year as regards sex, age, place of residence, place of death, and causes of death. A careful analysis of these returns has been made from various points of view. For convenience the tables will be given first. They will be used in the subsequent discussion and interpreted in the light of clinical experience; and I ask for indulgence if I fail to avoid some of the many fallacies inherent in statistics and deductions therefrom.

TABLE I.—*Geographical Distribution*

County	Number of Deaths: Annual Average for Years 1913–19	Number of Deaths: Year 1936	Geographical Population	Percentage of Deaths per Million of Population during 1936
Westmorland	1.57	7	65,408	107.0
Huntingdonshire	3.43	6	56,206	106.7
Shropshire	3.28	18	244,156	73.7
Cornwall	7.85	22	317,968	69.1
Cambridgeshire	1.43	9	140,004	64.3
Bedfordshire	2	14	220,525	63.4
Sussex	11.28	47	770,859	60.9
Wiltshire	3.14	18	303,373	59.3
Hampshire	11.14	58	1,014,316	57.1
Cumberland	5.28	15	263,151	57.0
Cheshire	17.28	61	1,087,655	56.1
Gloucestershire	8.57	43	786,000	54.7
Somerset	8.71	25	475,142	52.6
Hertfordshire	2.71	21	401,206	52.3
Derbyshire	8.71	38	757,374	50.1
Dorset	2	12	239,352	50.1
Norfolk	5.55	25	504,940	49.5
Northamptonshire	3	15	309,474	48.4
Lancashire	71.14	241	5,039,455	47.8
Leicestershire	4.85	25	541,861	46.1
Worcestershire	4	19	420,056	45.2
Berkshire	3.57	14	311,453	44.9
Lincolnshire	8.43	28	624,589	44.8
Buckinghamshire	2.57	12	271,586	44.2
Surrey	9.85	53	1,180,878	44.0
Yorkshire	49.71	192	4,389,679	43.7
Devonshire	12.85	32	732,968	43.6
Kent	13.71	52	1,219,273	42.6
Staffordshire	13.57	58	1,431,359	40.5
Nottinghamshire	6.57	26	712,731	36.5
Herefordshire	—	4	111,767	35.7
Suffolk	5.43	14	401,114	34.9
Warwickshire	12.71	51	1,535,007	33.2
Northumberland	8.85	22	756,782	29.0
Oxfordshire	4.3	6	209,621	28.6
London and Middlesex	48	155	6,035,731	25.6
Essex	8.57	44	1,755,459	25.1
Durham	10.85	37	1,486,175	24.9
Montgomery	2.43	7	48,473	144.4
Merioneth		5	43,201	115.7
Cardiganshire	2.85	7	55,184	126.8
Radnor		—		—
Carnarvonshire	3.14	12	120,829	99.3
Anglesey		3	49,029	61.1
Carmarthenshire	4.43	13	179,100	72.5
Pembrokeshire		1	87,206	11.4
Brecknock (with Herefordshire)	3.71	4	57,775	69.2
Denbighshire	4.3	9	157,648	57.1
Flintshire		4	112,889	35.4
Glamorganshire	11.71	67	1,225,717	54.6
Monmouthshire	3	20	434,958	45.9
England and Wales	442.03	1,691 +5	39,696,662	42.7

TABLE I.—*Geographical Distribution* (continued)

* Residence not stated.

TABLE II.—*Sex and Age Incidence*

Age	Non-operative Cases			Operative Cases		
	Male	Female	Total	Male	Female	Total
1-9	—	—	—	—	—	—
10-14	—	3	3	—	1	1
15-19	2	11	13	3	8	11
20-29	13	36	49	4	37	41
30-39	26	101	127	15	46	61
40-49	28	230	258	9	63	72
50-59	55	380	435	10	45	55
60-69	29	338	367	5	27	32
70-79	8	145	153	—	3	3
80-89	1	14	15	—	—	—
Totals ..	162	1,258	1,420	46	230	276

Total number of deaths, 1,696.

TABLE III.—*Analysis of Non-operative Deaths*

	Male	Female	Total
(I) Thyrotoxicosis	38	181	219
(II) Thyrotoxicosis plus some form of heart trouble	90	818	908
(III) Thyrotoxicosis; *or* (II) plus lung complications	26	160	186
(IV) (I) or (II) plus mental diseases	—	16	16
(V) Miscellaneous	6	85	91
Total			1,420

TABLE IV.—*Analysis of Operative Deaths*

	Male	Female	Total
(I) Thyrotoxicosis plus some form of heart trouble	13	79	92
(II) Thyrotoxicosis with lung complications ..	2	25	27
(III) Anaesthetic deaths	3	18	21
(IV) Thyrotoxicosis plus shock	2	17	19
(V) Thyrotoxicosis plus haemorrhage	—	3	3
(VI) Miscellaneous	26	88	114
Total			276

TABLE V.—*Frequency of Mention of Certain Complications*

	Non-operative Cases	Operative Cases	Total
(1) Auricular fibrillation	298	18	316
(2) Embolism, thrombosis, hemiplegia, paralysis	91	9	100
(3) Nephritis	21	2	23
(4) Rheumatism	20	—	20
(5) Cholecystitis, cholelithiasis, peritonitis, appendicitis	15	1	16
(6) Diabetes and glycosuria	11	1	12
(7) Gastric ulcer	11	—	11
(8) Splenectomy, removal of tonsils, hysterectomy, repair of perineum, and other antecedent operations (not upon the thyroid gland)	9	—	9
(9) Tonsillitis	6	—	6
(10) Cirrhotic liver	5	—	5
(11) Tuberculosis	2	—	2

TABLE VI.—*Analysis of Cases of Embolism, Thrombosis, and Hemiplegia*

Medical		Surgical	
Cerebral embolism	40	Pulmonary embolism	5
„ thrombosis	23	Cerebral „	1
„ haemorrhage	1	Femoral „	1
Hemiplegia	5	Coronary „	1
Pulmonary embolism	7	Multiple emboli	1
Femoral „	2		
„ thrombosis	2		
Cardiac embolism	2		
Coronary thrombosis	4		
Aortic embolism	1		
Embolism of the iliac arteries ..	1		
Subclavian embolism	1		
Popliteal embolism	1		
Thrombo-angiitis migrans ..	1		
Embolism (unspecified)	2		

TABLE VII.—*Analysis of Deaths under Anaesthetic*

Avertin	1	Gas and oxygen	2
Avertin, gas, and oxygen	5	Paraldehyde, morphine, and percaine	1
Avertin, gas, oxygen, and ether ..	2	Novocain	1
Ether	3	Anaesthetic not specified ..	2
Ether and oxygen	1		21
Gas, oxygen, and ether	3		

Geographical Distribution

A glance at the map (Fig. A) or a study of the figures given above will show the unevenness of the distribution, the highest percentage death rate occurring in Westmorland, the mountainous counties of Wales, and Huntingdon. A similar map was published by Campbell (1924–5) showing the geographical distribution of the death rate during the group of years 1913–19. The close parallelism of Campbell's map (Fig. B) and my own is remarkable. These two maps bring up two points of practical interest regarding thyrotoxicosis. First, the stress and strain of modern life has by some been regarded as an important factor in causation. Campbell's map does not bear this out, outlying mountainous counties not being the areas of greatest stress. Now if during the twenty years that intervene between the maps (the mortality rising from an average of 442 to 1,696) the stress of life were an important factor the distribution must have altered in favour of the big cities. It has not changed; therefore the stress and strain of life is, if a factor at all, a minor one, whereas the geographical factor is a major one, in causation. The second point is, Does the death incidence correspond to the incidence of simple goitre? Campbell studied this question carefully. He found that it was impossible to obtain reliable data as to the distribution of simple goitre; but he concluded that the evidence pointed to some degree of correspondence between the incidence of simple goitre and that of the thyrotoxic deaths. If this be true, and we take into account the acknowledged fact that many simple goitres become toxic, the further question arises, How far may the death rate be reduced by timely operation upon simple goitres or goitres that are in the early stages of toxicity?

Sex and Age Incidence

The proportion of deaths, as regards sex, has scarcely altered: one man dies to seven or eight women; this fact scarcely supports the strain of life as a notable causal factor. Between the ages of 10 and 30 years 118 deaths occurred—sixty-five medical, fifty-three after operation: the number of surgical deaths at these ages appears unduly high. Many thyrotoxic patients live to a good old age (60 to 90 years). Have these old people become toxic shortly before death, or have they suffered for many years from ill-health and debility? Could operation have given them a longer and healthier life?

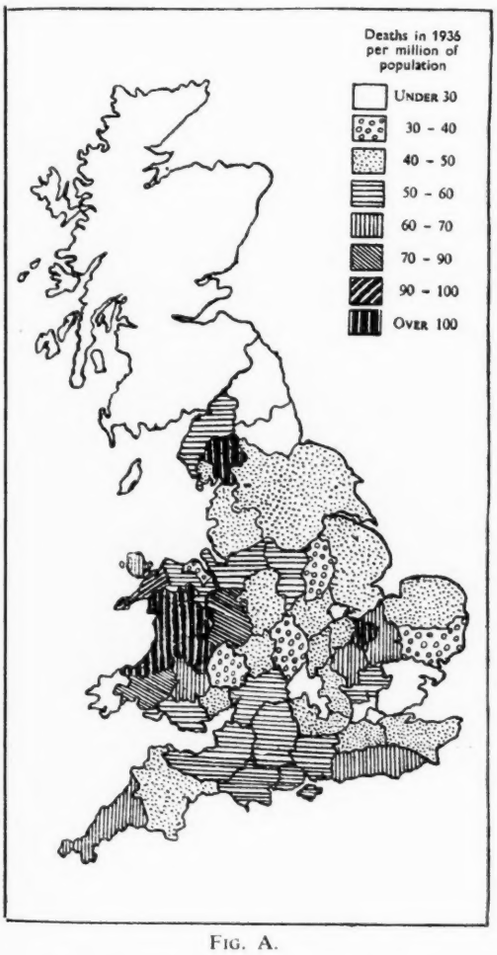

FIG. A.

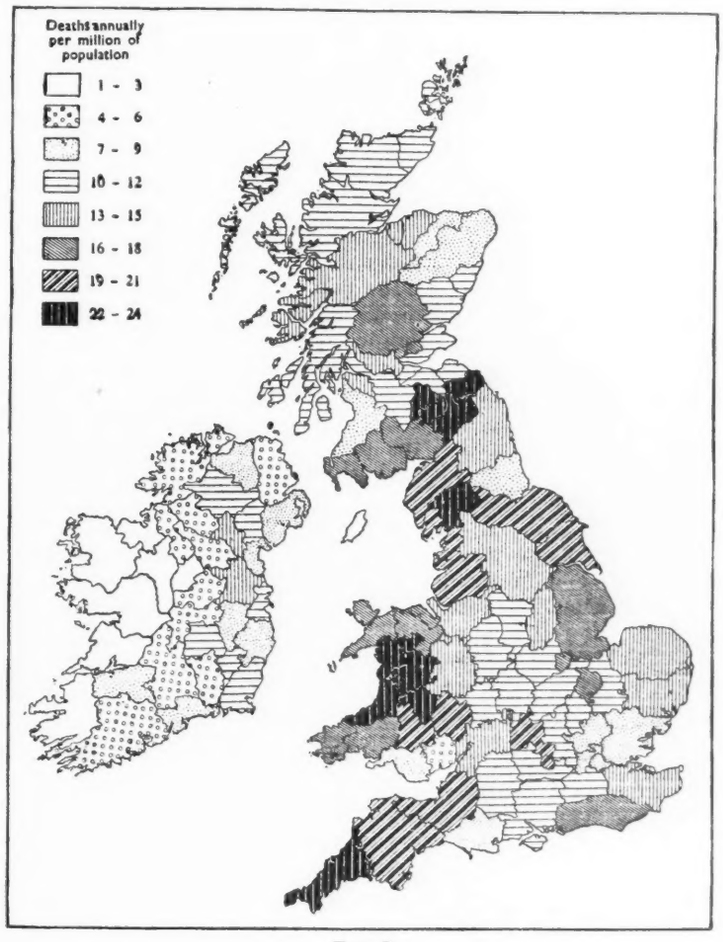

FIG. B.

FIG. A.—Map of England and Wales, showing the distribution of deaths from thyrotoxicosis during 1936, according to the Registrar-General's Reports (based on place of residence, not place of death).

FIG. B.—Map of Great Britain and Ireland, showing the distribution of deaths from exophthalmic goitre during 1913–19, according to the Registrar-General's Reports (Campbell).

The Surgical Deaths

Operation is stated to be the cause of death in 276 cases. The number of deaths following operation may exceed this figure, as operation may not have been mentioned in certain cases, especially in the 219 cases in which thyrotoxicosis alone (or a synonym) is given as the cause of death. Indeed, de Courcy Wheeler (1934) states that, in those severe cases where ligation of arteries is performed, if the patient dies surgery is blameless: the operation therefore has no title to appear on the death certificate. The certifier may consider that death has occurred in spite of and not because of the operation. The figure of 276 appears high: the fatal chest complications (twenty-seven specified, and doubtless many others not recorded) are numerous, and the deaths under anaesthesia (twenty-one) frequent. The varied nature of the anaesthetics used in these fatal cases suggests that skill in administration rather than the anaesthetics employed is the important factor in safety.

The Medical Death Rate and Complications

The mention of cardiac mischief in 908 cases, and of auricular fibrillation in 298 of these, shows how conspicuous a place cardiac complications take in the thyrotoxic picture. The vascular complications (embolism, thrombosis, hemiplegia) come next in frequency. It is noteworthy how often the brain is affected (sixty-nine cases); and that auricular fibrillation occurs thirty-eight times, whereas arteriosclerosis and hyperpiesia are mentioned only five times, suggesting that auricular fibrillation is a more notable factor in the production of thrombosis and embolism than high blood pressure. Nephritis is mentioned twenty-three times; rheumatism twenty times; the tonsil is not infrequently affected in rheumatism and also in thyrotoxicosis, and may form a connecting link. Diabetes and glycosuria occur less often (twelve times) than one would expect. Acute infections, especially pulmonary, but also tonsillitis and acute abdominal disease, are dangerous to the thyrotoxic patient; so also, now and then, are operations on other organs. Tuberculosis is notably rare, being only twice mentioned, once as phthisis and once as an old-standing

kyphosis: this is in line with the antagonism that is believed to exist between tuberculous disease and thyrotoxicosis.

The Sphere of Iodine in Thyrotoxicosis

The view is seriously advanced by Joll (1932) that the employment of iodine as a medical treatment is *the* new factor causing the increase in the death rate. It is well recognized that the use of iodine in areas where goitre is endemic may lead to a definite increase in thyrotoxicosis; the increase in the deaths in the hilly districts, presumably endemic goitre areas, would support Joll's view. Many writers emphasize the danger of giving iodine to thyrotoxic patients, and uphold Joll in his contention that iodine should be entirely reserved for the use of the surgeon as a pre-operative safeguard. Fraser (1936), on the contrary, advocates that iodine be given a trial in all cases of thyrotoxicosis. Yet Fraser adds: "Iodine does not cure the condition, and it is doubtful if it cuts short the course of the disease." There is, however, no doubt at all that the case in which iodine has failed, sent later for operation, often causes the surgeon much anxiety, leading to increased hazard and delay. For, as Morley (1936) puts it, iodine acts best on virgin soil. Given for the first time it is a magnificent safeguard against post-operative toxic crises. Its full efficacy is seldom reached during a second or subsequent course. Whereas in acute primary thyrotoxicosis the pulse may often be controlled and kept at 80 during the first administration of iodine, the pulse in the same patient at a later date may race along at 130 to 140 despite the use of that substance, the originally soft and responsive gland being now large, firm, and indifferent. Iodine is to the thyrotoxic patient what opium is to the "acute abdomen": it masks the symptoms without curing the disease. Doubtless cases recover under iodine and under opium, but for the many failures the penalty is severe. Even in the very acute thyrotoxic crises where iodine must be used as an emergency measure to save life the surgeon should be called in, as these cases may speedily become operable, and the opportune time, if not taken advantage of, may not quickly recur. Unless surgical treatment is permanently excluded in an individual case iodine is best reserved for the use of the surgeon before operation. If iodine as a mode of treatment in general practice were given up it is quite possible that a fall would occur in the death rate.

The dose usually recommended for pre-operative treatment is from 5 to 15 minims of Lugol's solution three times a day for five to fourteen days before operation. The following two cases are of interest as showing that in rare cases this dose may be greatly exceeded with usefulness and safety.

CASE I

Mrs. B., aged 28 (acute primary thyrotoxicosis, operated on during a severe crisis).—The patient had enjoyed good health until she suffered from crippling rheumatic arthritis (1929–30). This was cured by six to twelve months' treatment with thyromanganese; the total dose of thyroid extract was trifling. Her health was fair till January, 1932, when her doctor pronounced her a nervous wreck. In September, 1932, a diagnosis of thyrotoxicosis was made. In March, 1933, she had a severe crisis; this was controlled with iodine, and as authoritative opinion regards operation during a crisis as contraindicated she was sent home till it should pass over. Three weeks later she was returned to the nursing home as an acute emergency case with a running pulse of 180, diarrhoea and vomiting, and in a state of uncontrollable agitation. Her weight had fallen from a normal of 11 st. 10 lb. to under 7 st. The patient's restlessness was controlled by general anaesthesia (ether); heroin was administered hypodermically and Lugol's solution per rectum. In twenty-four hours she received 90 minims of the solution by mouth and rectum. Her pulse fell to 80 to 90 per minute. The Lugol's solution was discontinued and heroin was given daily. After five days the effect of the iodine ceased and she relapsed. She was then prepared with Lugol's solution for ten days, and on May 15, 1933, the right side and isthmus were operated on, the left side being done on June 5. Convalescence after both operations was rapid, and by October, 1933, she had regained normal weight, health, and vigour, and has since remained well.

CASE II

Miss H. B., aged 22, was admitted on November 2, 1937, for typical acute primary thyrotoxicosis of a year's duration, with tiredness, nervousness, shortness of breath, palpitation, and sweating, but no loss of weight; the pulse rate was often 160 per minute. She had had *x*-ray treatment from May to September and Lugol's iodine for the same period without benefit. The basal metabolic rate on November 5 was + 73 per cent., and the blood pressure 168/70. The thyroid gland was symmetrically enlarged and of the firm iodined type. The patient was kept under medical treatment, and the gland became softer and the pulse less rapid, but the latter rose very readily to 140 to 150. Lugol's solution was begun on December 28, 7 minims thrice daily. On January 8, 1938, her pulse was still very excitable, and rose to 142 during the period of the doctor's visits. At 2 p.m. on January 8 she had a rectal saline containing 50 minims of Lugol's solution; a half-hourly chart showed a gradual and remarkable descent

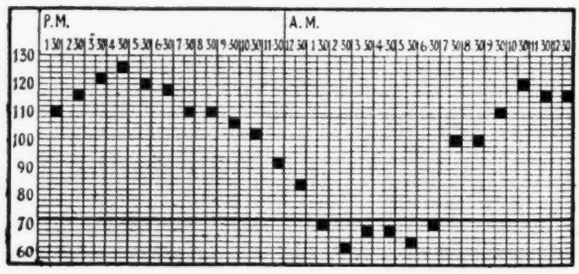

FIG. C.—Pulse chart showing the dramatic effect of 50 minims of Lugol's solution given in a rectal saline to a thyrotoxic patient (Case II).

of the pulse from 130 at 4 p.m. to 60 at 2 a.m., and it remained below 70 till 6.30 a.m. (see Fig. C). When I felt it the next day at 2.30 p.m. it was 132. She was given another 50 minims of Lugol's solution per rectum at 2 p.m., and the pulse again fell steadily to 64 at 12.30 a.m. The following day at 2.30 p.m. it was 120. On the evening of the 10th the patient had 70 minims of Lugol's solution per rectum. On the 11th, at 8 a.m., she had ¼ grain of morphine and 1/200 grain of hyoscine; at 9 a.m. ¼ grain and 1/200; and at 9.30 a little open ether and 1/6 grain morphine. The neck was infiltrated with novocain (½ per cent.), and bilateral subtotal thyroidectomy was performed without further anaesthesia, nine-tenths of the gland being removed. Before she left the theatre I told the patient that the complete operation had been performed: in spite of the heavy dosage of "twilight sleep" she smiled happily and said how relieved she felt; 30 minims of Lugol's solution were given per rectum on return to the ward. Convalescence was rapid, and she was discharged ten days after operation, on January 21, in excellent condition, with a pulse of 80. The wound had been healed for several days.

These cases show: (1) the possibility of successful operation during an acute crisis if well controlled by iodine; (2) the large dosage of iodine that can be given—the second patient had 263 minims of Lugol's solution in seventy-two hours (200 per rectum, 63 by mouth); (3) the

dramatic effect of a Lugol saline in an iodized patient; (4) the dosage of hyoscine and morphine that can be given in an acute case.

Delayed Diagnosis as a Cause of Death

The surgery of thyrotoxicosis is passing through a stage comparable to that of the long-neglected hernia, the big fibroid, and the late acute abdomen. The same pathetic fear of surgery which delayed treatment of these lesions twenty-five years ago is preventing early and safer treatment of thyrotoxicosis to-day. The same waiting for a fully developed picture is retarding early diagnosis. An incomplete picture is said to wear a mask. These masks, in particular the fibrillating heart, in proportion as the distinctive features of the disease become better known, are changed from masks to identification badges which suggest the diagnosis and lead to further investigation. Many a thyroid patient, having recovered from operation, says: "I feel in better health than I have enjoyed for many years"—sometimes ten or twenty years; but the diagnosis is recent, and these poor patients have suffered years of ill-health. Thyrotoxicosis presents a remarkable variety of clinical pictures. Its symptoms are manifested by disorder of the autonomic nervous system, and fall, apparently haphazard, with varied emphasis, on the organs under autonomic control. Taking the commoner signs and symptoms from the top of the head to the sole of the foot, the percentage incidence in cases coming under my care in this part of Yorkshire is roughly: nervousness or mental upset, 100 per cent.; increased rapidity of the pulse or auricular fibrillation, 100 per cent.; tremor, distinguishable from normal, 90 per cent:; easily produced fatigue, 80 per cent.; loss of weight, 80 per cent.; palpitation or thumping (or both), 75 per cent.; excessive perspiration, or dislike of heat, 70 per cent.; shortness of breath, 60 per cent.; digestive symptoms, 50 per cent.; headache, 30 per cent.; interference with the voice, 20 per cent. Eye-stare is common, exophthalmos is not so frequent, and swelling of the eyelids, swelling of the feet, anaemia, and anginal pain occur now and then. Where these symptoms are too few to render the condition obvious the disease is said to be masked. These masks are limited in number; let me mention the chief ones.

The Thyrotoxic "Masks"

1. *The Cardiac Mask.*—This is the commonest, a fact clearly brought out in the above statistics. These patients usually come with shortness of breath; some have a brief history, others date slight symptoms many years back. Hay (1936), in a charming paper on the thyrotoxic heart, pleads for the earlier diagnosis of those cases and for treatment at a period corresponding to that of the grumbling appendix. If anyone doubts the genuine difficulty which often exists in detecting thyrotoxicosis in those cardiac cases a single reading of Hay's paper will fully convince him; and diagnosis is very important, as operative treatment is brilliantly successful.

2. *The Mental Mask.*—The mental cases come as melancholia, mental depression with suicidal tendencies, and nervous breakdown with mental symptoms. Dunhill (1937) emphasizes the need for a mental expert to establish the diagnosis.

3. *The Abdominal Mask.*—The presenting symptoms may consist of a very accurate simulation of gastric or duodenal ulcer; or of a long history of bilious attacks. The following case demonstrates the cure of abdominal symptoms by operation on a goitre.

CASE III

Mrs. C., aged 48, had had severe stomach trouble for five years (since 1931). The attacks lasted one to six weeks, and consisted of continuous epigastric pain relieved (only for a short time) by food. Intervals of freedom lasted two to three months. She had to lie up very often, and in 1933 was advised (after *x*-ray examination) to have an operation for duodenal ulcer. She was sent to me in February, 1936, for the above symptoms and for a right-sided adenoma of the thyroid. The adenoma was growing, causing dyspnoea on exertion, marked fatigue, especially during the last two years, sweating, tremor, and slight tachycardia. The removal of the adenoma (March 5, 1936) completely cured the dyspepsia. The patient writes as follows: "It is now twenty months since my operation; my neck is now normal, the scar almost unnoticeable, and my dyspepsia trouble a thing of the past. I take ordinary food, sleep well, and my weight is normal; in fact, I feel I have taken a new lease of life."

4. *General Debility and Nervous Breakdown.*—Cases which have lurked behind this diagnosis for many years enter on a new era of health when the disease is identified and treated.

5. *The Absence of a Clinically Detectable Goitre.*—Careful examination will often find a goitre which is not at first obvious. Joll, speaking from his very large experience, declares that the thyroid is invariably enlarged in thyrotoxicosis. I believe personally that there are exceptions to this rule, as, for example, the following case.

CASE IV

Mrs. H., aged 49, had had typical symptoms of thyrotoxicosis of an aggravated type; the basal metabolic rate, carefully and satisfactorily taken, was + 54 per cent.; there was no goitre whatever (see Figs. 1 and 2 on Plate). At operation at least five-sixths of the total gland was taken away; the part removed weighed 7.81 grammes. The normal weight of the female thyroid gland exceeds 25 grammes. The patient made a dramatic improvement.

Hay (1936) states that thyrotoxicosis can exist without any clinically detectable enlargement of the thyroid gland. I believe the best rule is to assume that the thyroid need not be enlarged, but that the diagnosis must be clearly established before a case without enlargement of the gland is operated on for thyrotoxicosis.

Surgery in Thyrotoxicosis

Can the death rate be reduced by regarding thyrotoxicosis as a purely surgical disease? Nearly all writers are very guarded indeed in their answer to this question. All are agreed that operative treatment of a gland so valuable as the thyroid is to be regretted, and hope that medical research may find a better way. In the meantime operative results are such as to challenge every other method of treatment. There are no more brilliant results in the whole realm of medicine and surgery than the thyroid case after successful operation. But there can be a considerable mortality; and there can be many operative failures. All writers lay emphasis upon the fact that to obtain uniform success in this operation requires a degree of skill, judgment, gentleness, precision, and experience, together with a study of the individual patient and the winning of his or her confidence, much exceeding the care and skill needed for the average surgical operation. Don (1931), in a critical estimate of the late results of operation, states that there are comparatively few follow-up studies. In forty-two cases which he investigated in detail results were good in twenty-eight, there was improvement in nine, and little benefit in five. The statistics he quotes are on very similar lines.

Results of Operation for Thyrotoxicosis

The brilliant results which often follow operation, and some of the published papers, may readily give the impression that nearly 100 per cent. cure is attainable. Dunhill (1934) expressly warns us that such is not the case. In order to judge my own results I investigated the cases operated on by me for thyrotoxicosis in Bradford Royal Infirmary during the three years ending July 31, 1937—that is, some months before this paper was written. During this period I performed 218 operations upon 190 patients. Scarcely any cases sent to me were rejected. All types were represented, and many elderly debilitated wrecks were included. Two patients died as a result of the operation, both from acute thyrotoxicosis; 188 out of the 190 left the hospital convalescing satisfactorily. All patients were prepared with Lugol's iodine, and operation time was determined solely by clinical judgment, independently of the basal metabolic rate or electrocardiogram, though these were often taken in the later cases. There were no deaths under anaesthesia. Morphine and hyoscine (in doses carefully adapted to the individual patient) with ½ per cent. novocain, and occasionally some open ether at the beginning, constituted the anaesthetic. This anaesthesia compares very favourably with newer and more popular methods; it does not necessitate any special apparatus, and an anaesthetist was rarely needed. The operation is carried out quietly and deliberately, without haste; after-sickness is not common, and chest complications are practically unknown. The patients were nursed in a ward of twenty-five beds, without a special nurse.

As there was no follow-up clinic I have been unable to trace all cases. One hundred and sixty-two replies were received to a questionary and many of the patients were interviewed. Two had died—one two months, the other two years, after leaving hospital—from causes not known. The other 160 replied without exception that they were improved by the operation. Only 107—that is, 67 per cent.—were fit for a full day's work, and, even of those, 18 per cent. had some minor complaint such as feeling tired at night, occasional dizziness, or rheumatism.

The main interest of this inquiry lay in finding out the reasons why the remaining fifty-three patients (33 per cent.) were not equal to a full day's work. Those patients fell into a series of groups: (1) the elderly and debilitated who never would do a full day's work again; (2) those who had never enjoyed good health and upon whose debilitated physique thyrotoxicosis had been engrafted, the cure of the thyroid condition restoring them to their original indifferent health; (3) those with associated diseases, such as arthritis and heart disease; (4) those who could not afford a proper convalescence and returned to a troubled domestic atmosphere, adverse economic circumstances, or even the nursing of sick relatives; (5) those in whom there had been a defect in the operative technique, such as leaving rather more thyroid gland than the individual required; (6) a miscellaneous group where the patient refused removal of the second side or retained obvious septic foci, or where not enough time had elapsed for complete recovery.

In private patients the results are much better than in hospital: the original physique is better, operation is performed earlier, and conditions for convalescence are much more favourable. Ample time should be allowed for convalescence, as not only has the patient to recover from the operation and the antecedent debility, but the remaining fragment of thyroid gland has to adjust itself to the needs of the body and the unknown cause of the thyroid malfunction has to subside. A follow-up clinic is very useful.

Two cases of exceptional interest may be recorded.

CASE V: LOCALIZED MYXOEDEMA

A sea pilot aged 43 suffered from typical thyrotoxicosis developing over two years, characterized by much loss of weight, palpitation, excessive perspiration, hoarseness, cough, occasional depression, tremor, and quick pulse. Subtotal bilateral thyroidectomy was performed. He made a rapid and perfect recovery in every respect except one. Four months before operation two thickened areas had appeared over the front of each shin-bone. These grew somewhat after operation for a few months, then remained steady, and a year and a half after operation grew slightly again. They constitute large patches, each about 7 inches by 7 inches, on the front of the tibia starting 1½ inches above the ankle, with a raised margin, slightly reddened surface, not tender, not pitting on pressure, and causing the patient no inconvenience whatever except from their weight and unsightliness (see Fig. 3 on Plate). This case was identified by Dr. J. T. Ingram, who published an article (1933) on circumscribed myxoedema associated with hyperthyroidism. This condition is referred to by Dunhill (1937), and he considers it to be mucinoid degeneration.

CASE VI: JUVENILE PRECOCITY AFTER OPERATION

A girl aged 9 years had suffered for a year from typical symptoms of Graves's disease with exophthalmos. Her pulse readily rose to 160. She had failed to respond to non-operative methods of treatment. Her condition being well controlled by iodine, she was cured by a two-stage operation in the summer of 1932. I had some misgivings about performing a subtotal thyroidectomy at the age of 9 for fear of interfering with her future development. On the contrary, at the age of 14 this girl might easily have been mistaken for a finished young lady 23 years old, her manner, habits, outlook on life, and physique being those of a modern young adult. Dunhill (1937) refers to juvenile precocity occurring after operation for thyrotoxicosis.

Summary and Conclusions

The central problem discussed is the high and increasing death rate from thyrotoxicosis. The 1,696 individual deaths occurring in England and Wales in 1936 are analysed. Allied problems such as the sphere of iodine in treatment, early diagnosis, and surgical results are discussed. The general conclusion is that the increase in the certified death rate is due not to a single cause but to several. There is an *apparent* increase owing to more accurate diagnosis, so that cases in which patients were previously certified as dying from heart disease and many other causes are now correctly classified under the heading of thyrotoxicosis. There is a notable surgical mortality. Delay in surgical treatment until the patient is very ill is a contributory cause. The abuse of iodine as a medical treatment may play an important part. There may be an actual increase in the severity of the disease. These conclusions suggest that the certified deaths are more likely to increase than to diminish in the immediate future.

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LOBAR PNEUMONIA; SUBPHRENIC ABSCESS; DUODENAL FISTULA: RECOVERY

BY

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(WITH SPECIAL PLATE)

While the complications of a pneumococcal infection may be many and various, a series of unexpected events such as occurred in the following case of lobar pneumonia must be rare. It is not unknown for a pneumococcal infection of the pleura to spread down through the diaphragm and cause a subphrenic abscess, but it must be exceptional for a separate large collection of pus in the apex of the same pleura to be present at the same time and to empty itself into the air passages. Again, while cases have been recorded, especially in children, in which after the drainage of a pneumococcal empyema the wall of the neighbouring oesophagus has leaked into the abscess cavity, so that food comes through the wound, it is doubtful whether there is any record of the wall of the duodenum leaking into the cavity of a subphrenic abscess within forty-eight hours of its evacuation.

The man's immediate recovery from the danger of starvation owing to this leakage of food must be largely attributed to the jejunal feeding, which for two weeks was the sole means of providing him with food. Happily he has recovered his health, and to-day, seven years later, is working full time as a miner at the coal face. It need hardly be said that in the earlier stages of the illness it was not easy to form a clear picture of what was happening. The following is the history of the case:

Case History

F., a coal-miner aged 21, single, was admitted to the Sheffield Royal Hospital under one of us (A. J. H.) on February 15, 1931, as a case of right basal empyema following pneumonia. Up to this time he had never had any serious illness. One month previously he developed influenza and went to bed. A few days later he was told by his doctor that he had pneumonia. He was very ill, and had a bad cough with a pain in the right side, which was at first acute and hurt him on coughing and breathing deeply. He coughed up brownish phlegm, often very sticky. Three weeks before admission the doctor said he had got over the crisis, but still he continued to cough up foul phlegm and his breathing became more difficult.

On admission he looked ill; his temperature was 99° F., pulse 125, and respiration rate 36; his skin was moist and pale. He had no pain and was taking food well. On examination his chest showed decreased movement on the right side with absolute dullness at the base behind up to the scapular region, with lessened fremitus and diminished breath and voice sounds over this area. Impaired resonance was observed over the right front. The heart was slightly displaced to the left. The right base was needled the same evening and thick pus containing pneumococci was obtained.

The diagnosis of a pneumococcal empyema at the right base being thus confirmed, on the following day (February 16) a portion of the right tenth rib was resected under local anaesthesia in the post-axillary line. When opened a large amount of offensive greenish pus shot out with great force. Although a considerable amount was lost, about half a pint was collected. A large drainage tube was inserted. There is no record of anything unusual happening next day, but a note dated February 18 says: "Very copious discharge from the tube. It is thin watery fluid, brownish in colour, with patches of sodden lymph in it. It smells sour and offensive like stomach contents. There is very little actual pus." On February 19 the discharge was still thin and copious. On February 20, the fifth day after operation, milk and pieces of orange found in the dressings showed that there was a fistulous communication with the digestive tube; this had evidently begun within forty-eight hours of the operation. For the first two days only fluids leaked through, but the opening was now large enough to transmit solids.

RADIOGRAPHIC EXAMINATION

On February 21 films were taken by portable apparatus as the patient lay in bed. A straight radiograph of the chest (Plate, Fig. 1) showed the resected right tenth rib and the drainage tube *in situ*. A rather ill-defined upper border of the diaphragm is seen crossing the eleventh rib. The costo-phrenic angle is occupied by a shadow which extends upwards towards the axilla. Also there is a linear shadow extending obliquely downwards from the apex of the right lung to the middle of the lateral thoracic boundary. This is the edge of a collapsed portion of the lung enclosing a collection of fluid.

Shortly after the above film was taken the patient was given a small barium meal. Ten minutes later some of the barium came out through the drainage tube. A further radiograph was then taken (Fig. 2). In this the stomach is seen full of barium. The right diaphragm dome begins at the level of origin of the twelfth rib and rises to the tenth rib level. Barium is seen in and around the drainage tube. An irregular spray-like shadow seen just to the right of the third and fourth lumbar vertebrae is probably the duodenum. Between this and the barium shadow about the drainage tube there are two small shadows. These lie vertically above one another about half an inch from the right side of the vertebral column. The lower, opposite the lower edge of the second lumbar vertebra, is less dense, somewhat elongated, and about half an inch long by a quarter of an inch broad. The upper, and denser, shadow is opposite the lower margin of the first lumbar vertebra, rounded, and the size of a small pea. They are linked up to the collection about the tube by slight shadows of barium. The dome of the right diaphragm is seen at the level of the tenth rib just at the point at which it has been excised, curving across to the ninth rib. Its inner end is indistinct, but the general abdominal shadow up to about the eleventh dorsal vertebra can be observed. The sharp curved line with a shadow outside it in the right upper chest is seen as before. Between this and the dome of the diaphragm there appears to be a considerable area of lung.

It was clear from the radiographs that the fistula was not from the oesophagus nor from any part of the stomach, but probably from the duodenum. This explained the sour smell of the discharge (like stomach contents) as noted on February 18, and also the fact that barium did not appear in the tube until about ten minutes after the opaque meal had been swallowed. For the time being, however, it was not possible to make further investigations as to these various new features which the radiographs had disclosed.

FEEDING THROUGH THE JEJUNUM

The man's general condition was so rapidly becoming worse owing to leakage of food through the wound that the problem of how to feed him was now one of immediate urgency. It was decided to try feeding through the jejunum. On February 22 the abdomen was opened by one of us (G. S. S.) and a large-sized rubber catheter fixed obliquely into the jejunum. The drainage tube in the chest was at the same time removed. During the next two days (February 23 and 24) feeds of milk were administered by the jejunal tube, none of which came through the opening in the chest, thus

confirming the site of the fistula as above this level. Nothing was given orally. On February 25 a little milk pudding was given by the mouth as a test, and it came out at the chest wound. The discharge had now become more definitely purulent.

On the 27th water taken by mouth still leaked through the wound. On March 5 the general condition was improving. There was still some watery discharge with the pus from the wound, the edges of which appeared to be partially digested. Air was sucked in and blown out in coughing. He was taking food well by the mouth, and only very little escaped through the chest wall. On March 14 he was taking full meals by the mouth; none leaked through the wound. The jejunostomy tube was finally removed. The chest wound was still open, with a slight purulent discharge. A radiograph taken after an opaque meal showed no track towards the right diaphragm. The shadow in the right upper chest seen on February 21 had become denser.

PHYSICAL EXAMINATION OF UPPER CHEST

It was now possible to make a fuller physical investigation of the upper chest. There was an area of dullness in the right axillary region, corresponding with the shadow in the radiograph, with tympanitic resonance mesial to this. A needle in the right fourth space over this area in the mid-axillary line brought away about 15 c.cm. of yellowish pus, freely mixed with air. With this evidence of a pyopneumothorax at the right apex, distinct from the collection of pus which had been drained at the right base, a fuller inquiry was made into the details of the man's illness before admission. For much help in this we are indebted to his medical attendant, Dr. L. Jago.

DETAILS OF ILLNESS BEFORE ADMISSION

The facts were as follows: He began with a typical lobar pneumonia in which both lungs were affected. It ended by lysis. Three days later the temperature began to rise again and empyema was suspected. There was practically no sputum throughout, until the afternoon of February 14 (the day before admission), when the man himself states that he suddenly began to spit up foul-smelling yellow phlegm. His breathing became very bad, and the phlegm continued to come up in large amounts until about 10 p.m. The next morning he was seen by his doctor, who needled the right base, and, finding pus, arranged for the man to be sent to hospital the same day. It would seem that the doctor's attention had not been specially called to this sudden bringing up of pus on the previous afternoon, about which the patient is very clear.

Discussion

From this description of what happened on February 14, the day before admission, there can be no doubt that pus had then burst into the air passages. The collection of pus evacuated at operation on February 16 could not have been the one which had burst into the lung, because its contents were in a state of hypertension and were not mixed with air. On the other hand, the shadow in the right upper chest seen in the radiographs of February 21 (Figs. 1 and 2) and the clinical findings of pus and air in this region on March 14 are consistent with the view that it was this apical empyema which had burst into a bronchial tube the day before admission.

The presence of a large empyema in the upper part of the right pleura, which according to the history had burst into the air passages the day before admission, made it difficult to believe that the big tense collection of pus evacuated two days later could have been in the right pleura at the same time. The explanation which seemed to fit all the facts was that the pus evacuated at operation on February 16 came from below the diaphragm and not from above it—in other words, that what on admission was thought to be a basal empyema was actually a subphrenic abscess of pneumococcal origin in the right extraperitoneal area. On this assumption the occurrence of a fistulous communication with the duodenum became less difficult to understand. The close anatomical relations between the duodenum and this subphrenic area are well known. A duodenal ulcer may give rise to a subphrenic abscess, or a subphrenic abscess arising from some other source may burst into the duodenum.

In the present case, however, neither of these things happened exactly. There is nothing which points to any primary trouble in the wall of the duodenum. The man had never suffered from any gastro-intestinal symptoms previously, although the leak was from gut to abscess cavity. On the other hand, everything points to the pneumococcal origin of the abscess: it followed directly after a definite lobar pneumonia; pneumococci were present in the pus, and there was a coincident pneumococcal empyema in the upper part of the pleura on the same side. The fact that the duodenal leak did not occur until the abscess cavity had been emptied and drained suggests that at the time of operation the abscess had already tracked down and reached the wall of the duodenum, into which it would soon have emptied itself had the pressure not been otherwise relieved. As it was, the pressure in the abscess cavity being reduced, indeed becoming negative during inspiration, the relatively greater pressure inside the duodenum after a meal was sufficient to break through the thin remnant of wall between it and the abscess cavity. In fact, what happened in this case was very similar to what happens occasionally in cases of oesophageo-pleural fistula following the opening of an empyema. In these, as a rule, it is the thinned and adherent wall of the oesophagus that gives way and bursts into the empyema cavity when the external pressure is reduced by evacuation of its contents and the internal pressure is increased by the passage of food.

Whether the pneumococci reached the subphrenic area directly from the adjacent pleura or whether they were blood-borne is perhaps more of academic interest than of practical importance. The radiographs show evidence of fluid in the right costo-phrenic angle, but it is not now possible to say if this preceded or followed the subphrenic collection. The most simple explanation is direct infection from the pleura above, though such extension of infection downwards is, as has long been recognized, very rare.

Barnard (1908) saw only one such case, and noted as remarkable that while nearly all subphrenic infections pass readily through the diaphragm to the lungs or pericardium, it is rare for the contrary to occur. He discusses the possible reasons for this, which need not be gone into here. He mentions one case of right lobar pneumonia which was followed by a pneumonic abscess in the right anterior and posterior fossae—probably a lymphatic infection—and one case of localized empyema at the left base which burrowed into the left extraperitoneal cellular space, passing below the external arcuate ligament.

Rischbieth (1911), commenting upon this rarity of direct spread through the diaphragm, illustrates it by the varied and devious other directions in which a long-standing "empyema necessitatis" will go before emptying itself. Ochsner and Graves (1933), in a critical analysis of more than 3,000 recorded cases of subphrenic abscess, together with fifty cases personally observed, give the following figures. In 88 per cent. the primary lesion was in the abdomen. In from 3 per cent. to 6 per cent. the infection was blood-borne from some distant focus, while "still less

frequently suppurative lesions in the thorax may extend through the diaphragm into the subphrenic space." This occurred in 2.6 per cent. of the collected cases. Musser and Norris (1907), in a review of 13,550 cases, say that subphrenic abscess is very rarely a sequel of pneumonia, and add that "the diagnosis of empyema is usually made."

That in our case the pleura was not directly infected by either of the two aspirations or by the subsequent operation was probably owing to adhesions from a local pleuritis, either preceding or secondary to the subphrenic abscess. The rest of the history of the case is as follows:

Further History of Case

By March 20 the patient's general condition had improved steadily. The apical empyema, which had been filling up again (Fig. 3), began to empty itself more freely, the sputum being now copious, purulent, and offensive, and increased by lying on the left side. This continued for some time. On April 8 the dull area in the right axilla was again needled, but only air was obtained. On April 15 the sputum had become much less. He began to put on weight and was sent to a convalescent home. The discharge from the chest wound was very slight. A radiograph taken on April 28 shows the shadow in the right upper chest to be much smaller. The man was now discharged home.

He was not seen again for three years (August, 1934). His condition was then as follows:

He was active and well; he had no cough; his chest expansion was three inches. The cardiac impulse was slightly nearer the middle line than normal. The front of the chest showed very little abnormality. The right side was resonant to the sixth rib in the nipple line in front, and was rather hyperresonant just above the liver—possibly some marginal emphysema. He plays a wind instrument in a local band. The liver edge was not palpable. At the right back there was a large depressed scar at the site of the excised rib, and dullness, with loss of vocal fremitus and breath sounds, up to about the lower angle of the scapula. The axillary border was resonant. He had a good colour, without any tendency to cyanosis. The fingers were clubbed. He lost his job at the coal face while he was ill, and up to this time had been out of work owing to bad conditions. A radiograph (Fig. 4) of the chest taken on September 18, 1934, did not show any remains of the shadow at the right apical region.

In February, 1938—that is, seven years after his illness—he was again seen by one of us (A. J. H.). He was then in excellent health, working full time at the coal face.

Had the existence of a right apical empyema, which had burst into the lung, and the subdiaphragmatic situation of the collection of pus been correctly diagnosed at the time of his admission, as it probably would have been had a radiograph been then taken, it is possible that the line of treatment adopted might have been different. It could not have had a more satisfactory end-result.

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The seventh joint conference of the National Association of Cemetery and Crematorium Superintendents and the Federation of Cremation Authorities in Great Britain will be held at Edinburgh from June 27 to 30. The first of a new series of annual conferences, covering all aspects of cremation administration and propaganda, will be held under the joint auspices of the Cremation Society and the Federation at Balliol College, Oxford, from July 22 to 25, under the presidency of Lord Horder.

AN ANALYSIS OF 350 CASES OF ABORTION

BY

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(WITH SPECIAL PLATE)

In view of the frequency of abortion, and especially of procured abortion, in industrial districts an analysis has been taken of 350 cases admitted to the Derby City Hospital during the eight years 1930–7 and an endeavour made to assess the probable cause in each case. To bring the figures to a round number of 350 eleven cases of threatened abortion in which the pregnancy continued have been included.

Statistical Analysis

Table showing Number of Abortions Yearly (1930–7)

1930	30	1934	46
1931	31	1935	44
1932	47	1936	49
1933	36	1937	67

The low figures for 1930 and 1931 were those relating to the first two years after the hospital opened. The large number in 1937 may be due to medical practitioners sending more cases into hospital instead of dealing with them at home, on account of the proceedings taken against certain professional women abortionists.

The civil state of the patients was:

Married	306
Single, widow, or legally separated from husband	44

In addition a certain number of abortions occurred in married women living apart from their husbands but not legally separated.

Number of Previous Children

None	97	Seven	5
One	82	Eight	5
Two	63	Nine	2
Three	27	Ten	3
Four	34	Eleven	3
Five	14	Twelve	3
Six	12		

The highest proportion of presumably natural abortions was in women with no children. The highest proportion of presumably procured abortions was in women who had had four children.

Number of Previous Abortions

None	230	Three	4
One	91	Four	2
Two	23		

It is probable that the history obtained was not always accurate. Thus in a procured abortion a history of "no previous abortions" might be given in an attempt to divert suspicion.

Stage at which Abortion Took Place

Under two months	46	Four to five months	44
Two to three months	126	Five to six months	10
Three to four months	124		

Attitude of Patients

As a whole the patients gave their history and symptoms fully. In 316 cases the condition was described freely; in thirty-four the patient was apprehensive and afraid, apart from a transient nervousness, which, however, was not always present in cases, due to a criminal

act, that subsequently proved fatal. In several instances the history given on admission was modified later. In other cases, subsequently proved to be criminal abortions, the patient denied interference of any sort, sometimes strenuously and to the end. In some cases, evidently procured, the patient said "she did not think she was pregnant." Eleven patients volunteered the information that they were anxious to have a baby, and were disappointed at the abortion, as they were without children. In one septic case, almost certainly procured, the patient said she desired a baby, as her only child had died.

Some curious causes were ascribed by patients, such as "Seeing a strange dog," "Hearing the howling of a dog in the night," "Nearly seeing an accident," and "The death of a relative" (not a close one). No patient who ascribed such a cause was observed to have any instability while in hospital. It is probable that in procured abortions a history is freely given, but is usually quite unreliable.

Causes

Analysis of the causes of abortion resulted in the following classification:

Maternal disease and foetal abnormalities	63
Falls, strains, overwork, etc.	30
Personal use of drugs: Probable 5, Certain 8	13
Personal interference	6
Interference by someone else	6
Proved interference by unknown person	4
Undetermined:	
(i) Probably natural	57
(ii) Probably procured	91
(iii) Indefinite	80

MATERNAL DISEASE

In sixty-three cases maternal disease or foetal abnormality was present to such a degree that it might reasonably be assumed to be the main factor in the abortion. In some instances an injury was also described, such as falling down steps, etc.—for example, abortion occurring after a fall, with a retroverted uterus.

FALLS, STRAINS, OVERWORK, ETC.

In thirty cases a history of some such occurrence was given, apart from any other condition. The usual events were falling downstairs, a heavy day's washing, and moving heavy furniture. In some other cases where a fall was described there was proof that local interference had taken place, and the history given was apparently a feeble attempt to divert suspicion.

PERSONAL USE OF DRUGS

1. *Probable.*—In five cases the presence of vomiting and diarrhoea indicated the probable use of drugs.

2. *Certain.*—In eleven cases the taking of drugs was admitted, usually a strong purgative in excess or a large number of "female pills." One woman became seriously ill with acute nephritis, but ultimately recovered. Some women openly admitted taking drugs, saying they had had three or four children and considered they had "done their share." In two further cases, referred to later, the women described the taking of drugs followed by the use of an instrument.

PERSONAL INTERFERENCE

In six cases personal interference was admitted, in three of them by means of "slippery elm" bark: in one of these cases the strip of bark was still present in the cervical canal on admission. In two cases the use of a knitting needle was described, following the unsuccessful employment of drugs—no injuries were visible. In one case it was said that abortion followed a douche. In some of these cases it appeared probable that interference had been carried out by another person.

One woman attempted to procure abortion by introducing a thin stick of "slippery elm" bark. Nothing happened, and some months later she was delivered of a normal full-term child. A further six months later she was admitted to hospital with a stone in the bladder the size of a hen's egg, which on section was found to have as a core the stick of "slippery elm," which had evidently been inserted through the urethra. (Plate, Fig. 3.) Another case occurred in which the patient took drugs and then used a knitting needle because she thought she was pregnant, whereas she was not, the amenorrhoea being due to the menopause.

INTERFERENCE BY SOMEONE ELSE

In five cases interference by another person was alleged. In two cases a solid article such as a crochet-hook was stated to have been used; in neither case was there any visible injury. The other three cases were caused by the introduction of the finger of a professional abortionist, by the use of a Higginson's syringe in the vagina, and by drugs "forcibly administered by her young man" respectively. In two of the above cases convictions were subsequently obtained against professional abortionists.

PROVED INTERFERENCE BY AN UNKNOWN PERSON

Definite injuries were present in four cases, in none of which was any clear information obtainable, either at the time or at subsequent inquiries. Two of these cases proved fatal. They consisted of one case of perforated uterus, one of perforated vaginal fornix, and two cases of lacerated vaginal wall.

UNDETERMINED

1. *Probably Natural.*—In fifty-seven cases no information was forthcoming, but in the absence of anything abnormal there were no grounds for supposing that the abortion was other than natural.

2. *Probably Procured.*—In ninety-one cases no information was obtainable, but there were reasons for supposing that the abortion was procured. Rough conclusions were drawn from the history, the attitude of the patient, the presence of pyrexia, a septic uterine discharge, and the knowledge that during the period in question various professional abortionists had been carrying on a very extensive practice. Some women evidently had had procured abortions repeatedly.

3. *Indefinite.*—In eighty cases the evidence was indefinite, some being probably natural and some probably procured; the majority perhaps in the former class.

Pyrexia

The patients' condition in respect to pyrexia was classified as:

Present on admission	124	Local causes
Not present on admission but present subsequently	26	Local causes
Temperature present but due to some other disease	12	
No temperature	188	

It will be seen that in 124 cases pyrexia was present on admission. In twenty-eight of these it did not recur, and was probably due to some reaction after haemorrhage and to the patients' removal to hospital. In the remaining

ninety-six it was associated with uterine sepsis. A further group of twenty-six patients developed a temperature after admission, with the presence of uterine sepsis. In twelve patients pyrexia was present but was due to other causes —for example, pneumonia causing abortion. In 188 cases there was no temperature, but thirty-three of these patients had a purulent uterine discharge. In one case pyrexia was present with uterine sepsis following abortion, apparently due to a bicycle accident some days previously.

It is possible for a natural abortion to be accompanied by a temperature—for instance, a natural abortion which occurred in hospital in a patient suffering from heart disease.

Course of Illness

Normal course	273	Critically ill	12
Ill	55	Died	10

The table shows that in 273 cases the illness ran a normal course. Fifty-five of the patients were decidedly ill, several of them having various sequelae. Twelve were desperately ill, and just escaped with their lives. Of the ten patients who died nine had sepsis; the remaining one had chronic nephritis and died of uraemia. Some of the inquiries into the fatal cases produced an "open verdict," but these cases were possibly associated with women subsequently convicted.

Period in Hospital

The time spent in hospital varied from under fourteen days to over three months, as follows:

14 to 28 days	222	1 to 3 months	28
14–28 days	98	Over 3 months	2

The conditions present in patients in hospital over one month were profound anaemia, phlebitis, arthritis, pelvic cellulitis, pelvic peritonitis, septicaemia, and pyaemia.

Slippery Elm Bark

From inquiries it appeared that the most frequent cause of procured abortion in this locality was the insertion of slippery elm bark into the cervical canal, and there is reason to believe that it is a common practice. It may be inserted either by the woman herself or by an abortionist (professional or amateur).

Slippery elm bark, or *Ulmus fulva* cortex, is derived from a tree found in Central and North America. The bark is separated from the trunk and is dried after the outer corky portion has been removed. It occurs in flat pieces several inches long, a few inches wide, and a few millimetres in thickness. It contains much mucilaginous material, which exudes on soaking the bark in water. It is claimed to be of value in the preparation of poultices and as a "food" in illness and debility. If a small portion be soaked it increases considerably in width (Plate, Figs. 1 and 2), which becomes approximately doubled, but the same comparative increase does not occur in larger pieces. Probably one or more small pieces are placed in the cervical canal, and abortion is procured partly on account of the presence of the foreign body and partly from the dilatation of the cervix following swelling of the bark.

Conclusions

From a survey of a series of 350 cases covering eight years it appears that of abortions admitted to hospital in an industrial town some 40 per cent. are probably procured.

The history in procured cases is usually freely given, but it is unreliable. The commonest cause of procured abortion in the locality in question is probably the insertion of slippery elm bark into the cervical canal.

Local interference is usually performed with a certain amount of mechanical skill, and it is rare to find positive evidence of injury—this would appear to indicate that it is more frequently done by someone else than the woman herself. On the other hand local sepsis is exceedingly common. Uterine sepsis accompanied by pyrexia was present in 35 per cent. of the cases, and uterine sepsis without a temperature in a further 10 per cent. approximately.

Of the patients, 20 per cent. were decidedly ill and 3 per cent. died. All the deaths were due to sepsis, except one resulting from chronic nephritis and uraemia.

THE PATHOGENESIS OF BRONCHIECTASIS*

BY

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(WITH SPECIAL PLATE)

In a recent publication (Lander and Davidson, 1938) we put forward a hypothesis in regard to the causation of bronchiectasis, and endeavoured to show that mechanical factors played by far the most important, if not the sole, part in the production of bronchial dilatation, the role of infection being secondary and by no means inevitable. One of the points brought out in this communication was the occasional occurrence of bronchial dilatation within a collapsed lobe during the course of artificial pneumothorax therapy, and the fact that such dilatation was appreciably lessened in degree when, in consequence of a refill, a reduction of the intrapleural pressure was brought about. The object of the present paper is to amplify this point, and to show that a similar variation in the degree of bronchial dilatation occurs in ordinary cases of clinical bronchiectasis under normal conditions of respiration.

Practically all bronchograms are made when the chest is in the position of full inspiration. This is so with all cases at the Brompton Hospital, except those of patients under a general anaesthetic, when the picture is usually taken at the moment of complete expiration. It seemed good to us to make a series of bronchograms from cases of bronchiectasis both in full inspiration and in full expiration, in order to determine whether any difference could be detected in the calibre of the affected bronchi. Some twenty cases were investigated in this way, and in all those in which satisfactory bronchograms were obtained isolated ectatic bronchi could be measured in the same patient under the two conditions. A significant alteration in calibre was observed; the expiratory position showed an appreciable diminution in size of the bronchi in comparison with that seen in the inspiratory position. Such alterations in size were much more marked in ectatic than

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in normal bronchi; they were, moreover, symmetrical, and were not merely alterations in shape due to pressure from surrounding structures.

The lung is a highly elastic organ, and its retraction during expiration must be the result of this elasticity, and not of any external pressure from the thoracic cage. Diminution in size of the thorax results not in pressure on the bronchi but in further retraction of elastic tissue in the surrounding lung. Consideration of these facts in relation to the cases under observation has led us to the conclusion that the elastic tissue of ectatic bronchi, so far from being destroyed by disease, is intact and functioning perfectly.

Pathogenesis of Bronchiectasis

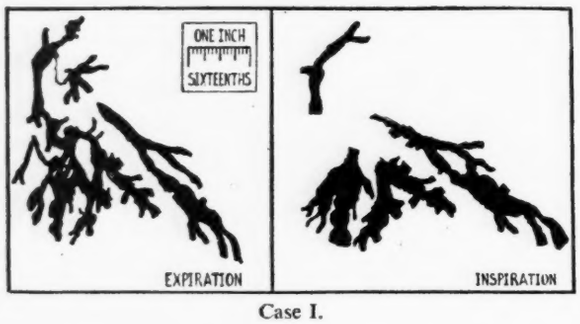
The significance of the foregoing observations in relation to the causation of bronchiectasis is considerable. The traditional teaching as to its infective origin is still accepted by the majority of clinicians, although the importance of pulmonary collapse as an aetiological factor is receiving increasing recognition. If infection is postulated as a primary cause it may be supposed to act in one of two ways: (*a*) by weakening the bronchial wall and the elastic tissue, so that elasticity is diminished or lost and dilatation follows immediately; or (*b*) by causing actual ulceration of the bronchial wall, leading to complete destruction, the enlarged cavity being thus lined by fibrous tissue and mucous membrane (Erb, 1933).

In view of the proof we have just given of the persistence of functional elastic tissue, the first of these hypotheses would appear to be untenable. The second might hold good for a short time while the ulcerated cavity is still not lined by fibrous tissue, since it is known that some tuberculous cavities vary in size with respiration. This, however, is only the case when the cavity has no true wall, and expansion and contraction are therefore only explicable by the elasticity of the lining lung tissue. Furthermore, those tuberculous cavities which do thus vary in size tend in the course of time to become larger, since there is as yet no fibrous tissue to demarcate them clearly from the surrounding parenchyma.

The two cases whose expiratory and inspiratory bronchograms are reproduced were both of long standing.

Illustrative Cases

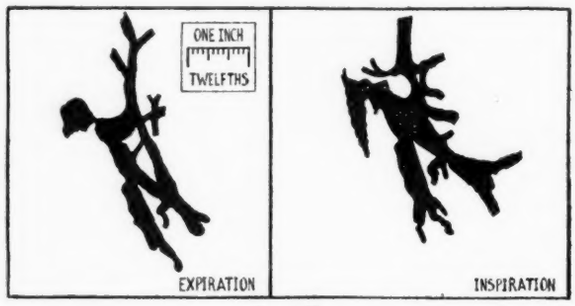
In Case I the bronchogram of 1928 showed a marked degree of bronchiectasis. A phrenic evulsion was performed in that year, and from that day to this the patient has remained well, though he still has some cough, with about three ounces of sputum daily. The bronchogram of 1938 shows a degree of



Case I.

bronchial dilatation slightly less than that present in 1928, presumably due to the counteraction of the excessive negative pressure by the diaphragmatic hemi-paralysis. The expiratory bronchogram depicts a state of the bronchi that is almost normal, but the inspiratory picture shows a fairly marked degree of dilatation.

Case II is that of a girl of 15 who has had a cough ever since she was 2 years old. A plain radiograph showed a collapsed left lower lobe of such small size as to suggest that the collapse occurred in early life. Bronchography revealed not only bronchiectasis in the collapsed lower lobe but also dilated bronchi in the lingula of the upper lobe. The inspiratory and expiratory bronchograms again show a marked difference in size, not only in the bronchi of the lingula, but also in those of the collapsed lower lobe.



Case II.

The diagrams have been made from actual tracings of the original *x*-ray negatives. The attached scale enables accurate measurements to be made of the calibre of the affected bronchi. Prints of the *x*-ray films are reproduced in the plate, but the contrast in these is not sufficient to show the details so well as can be done by diagrams.

Summary

Two cases are described: in one of these there is radiological proof of the existence of bronchiectasis for a period of ten years; in the other there is very strong presumptive evidence of pulmonary collapse of thirteen years' standing. Comparative bronchograms in these cases show that, despite the existence of dilatation of the bronchi, the affected bronchi still retain their full degree of elasticity.

The persistence of normally functioning elastic tissue in bronchi thus distorted affords a strong argument against the theory that infection of the bronchial wall is the primary cause of bronchiectasis.

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The second International Spa Federation Congress will be held in Berlin during the second half of September. The arrangements are in the hands of the Reichsfremdenverkehrsverband, Potsdamer Platz 1, Berlin, to which should be sent notification of intention to attend. The first general meeting of the International Spa Congress will be held simultaneously in Berlin and at some German spa. There will be five subcommittees of the Federation Congress to plan for the economic, legal, medical, technical, and tourist and propaganda sections respectively. The proceedings of the first Spa Federation Congress have now been published. This volume of six hundred pages contains the official programme and a report of the various discussions at the Bucharest Congress last year, together with lectures which were then delivered and the papers read on the occasion of the centenary celebrations of the Royal Medical Society of Bucharest and the medical postgraduate course which was held concurrently. The price of the Congress Bulletin is 20s. or the equivalent in any other foreign currency, which sum should be forwarded to the account of the International Spa Federation at the Hungarian General Credit Bank, Budapest 507, as soon as possible.

HETERO-LATERAL ECTOPIA OF THE RIGHT KIDNEY

BY

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(WITH SPECIAL PLATE)

This abnormality is rare but is of clinical importance. The chief features are brought out in the following case.

Case Record

A young man of 31, a keen athlete and in perfect health, had been rejected for life insurance five years previously because a trace of albumin had been found in his urine. Examination showed no albumin in the early morning urine and no casts or other pathological findings, microscopical or chemical, at other times. He was normal generally, but palpation of the abdomen was difficult. No kidney could be felt on either side. The blood pressure was 136/80 and the blood urea 42 mg. per 100 c.cm., both figures high for his age. Urea concentration was 2.18 per cent. in 95 c.cm. of urine passed in the second hour: urea clearance with urea (Fowweather's test) 76.9 c.cm. per minute. Blood urea at the end of the second hour was 66 mg., again a rather high figure. Intravenous pyelography to exclude polycystic kidneys showed no kidney on the right side and two on the left. He was then examined by cystoscopy and retrograde pyelograms—frontal, lateral, and stereoscopic. These were the findings:

Examination.—Bladder normal; ureteric orifices normal; the right ureter 20 cm. in length, the left 27 cm. The left kidney was normal in size and location, and also in calix distribution and formation. It was incompletely rotated, the pelvis lying in front. The right kidney had passed over to the left side. It lay below and ventral to the left kidney, overlapping its lower third. The pelvis was anterior and small, and was divided immediately into three major calices. The lower calices were normal, the upper large. The papillae of the latter were, however, not flattened. Both kidneys were about equal in size and showed good and equal function in the excretion of per-abrodil. The whole mass extended from the eleventh rib to just above the iliac crest. The left ureter passed forward over the upper part of the lower kidney and then gradually backwards, reaching the bladder on its own side. The right ureter crossed the middle line at the level of the last lumbar vertebra and entered the bladder at the normal piace on the right side (see Plate). When the kidney mass was pressed upwards the relative position of the two pelves was altered, and this, together with the clear overlapping individual shadows, indicated only slight fusion or none between the two kidneys.

There was nothing in these findings to indicate the reason for the albumin, though possibly the postural or vascular conditions which may bring this about in orthostatic albuminuria were imitated by the lower or displaced kidney.

Discussion

Stewart and Lodge (1923–4) in 6,500 necropsies found fourteen horseshoe, sixteen solitary, and one hetero-lateral ectopic kidney. Morris in 15,908 necropsies found one case of the latter type. If it is permissible to apply these figures to general populations London would have about 14,000 people with horseshoe kidneys, 16,000 with only one, and 1,000 with hetero-lateral ectopia. Owing to the enhanced susceptibility of abnormal kidneys to disease, more of these groups are likely to apply for treatment than similar groups of the ordinary population. Now solitary kidneys may be detected by cystoscopy because of a distorted trigone and only one functioning ureteric orifice or, if the kidney is double, two orifices on the same side. Horseshoe kidneys may cause embarrassment, but are at least recognized at operation. Hetero-lateral ectopic kidneys, on the other hand, are not readily diagnosed by either of these methods. The ureteric orifices are normal and the passage of ureteral catheters without radiographs does not help. The two kidneys, if not fused, are in close relation within the capsule of Gerota, and even if two ureters are found it may be considered that they belong to a simple double kidney. Unless the surgeon is aware of the condition the whole of the renal substance may be removed, and this has happened on more than one occasion. In no case, then, should pyelograms or radiographs of opaque catheters be omitted.

The cause of hetero-lateral ectopia, especially in the 15 per cent. of cases without fusion, is not clear, but the condition must have its origin when the embryo is little larger than a grain of rice—probably through persistence of the usually transitory direction of the ureteric bud in a dorso-medial direction, which would carry the kidney anlage towards the middle and ultimately to the opposite side. Acute lesions such as rupture place these patients in the greatest danger if pyelography be omitted. Those interested in the subject will be able to follow the literature by referring to recent articles by Carleton (1937) and Patch (1937).

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HYPEROSTOSIS FRONTALIS INTERNA

(STEWART-MOREL'S SYNDROME)

BY

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(WITH SPECIAL PLATE)

During the past few years neurologists have shown an increasing interest in the syndrome often associated with the name of Morel, and each new publication has made some contribution to our knowledge of its aetiology or clinical features. Schiff and Trelles (1931) were inclined to attribute the disorder to trauma; L. van Bogaert (1930) has brought forth evidence to associate the visual defects with compression of the optic nerve in the bony foramen. There is still, however, a good deal of uncertainty both as to its pathogenesis and to its status as a clinical disorder. At the 1935 Congress of Pathologists in Oslo, Henschen even expressed doubts as to the existence of the syndrome.

Case Report

Eleven years ago the patient, a woman aged 72, had been ill with a herpes zoster in the left ophthalmic area followed by persistent neuralgic pains. *X*-ray treatment produced a severe dermatitis and ulceration over the head, which healed with extensive scarring. A year ago alcohol was injected into the lower branch of the left trigeminal nerve. Since that time she has been subjected to numerous forms of treatment —with vaccines, opium, physiotherapy and psychotherapy— without benefit. She had been getting stouter during the last ten to fifteen years, especially over the trunk. No polyuria or polydipsia was present. Sleep was "inverted," the patient being restless during the night and sleepy, tired, and dizzy

during the day. Other symptoms included depression, anxiety, tearfulness, and apathy to her surroundings.

On examination she was seen to be small and obese, her weight being 83 kg. (182 lb.). The obesity had gradually developed during the past ten to fifteen years in the abdomen, around the pelvis and trunk. The extremities were slender, with proximal adiposity. The distribution of hair was normal. The internal organs were healthy, and the blood pressure was 180/110. The second aortic sound was accentuated. There was a somewhat sluggish reaction of the pupils to light, more especially the left, but the fundus was normal. There was impairment of all forms of sensation over the first division of the fifth nerve on the left side and tenderness over the supra-orbital and infra-orbital notches. The corneal reflex was brisker on the right. Occasional vasomotor changes were observed over the second and third divisions of the left trigeminal area. Other cranial nerves were normal. There was no muscular wasting, and tonus and reflexes were normal. The patient's mental attitude was characterized by a lack of confidence and by irritability. She was markedly egocentric, all her interests and her activities being claimed by her affliction. She strove to make people around her realize the seriousness of her complaint. Her disease dominated the whole of her thoughts. Concentration, attention, and memory were impaired; her general intellectual level was poor, but her critical faculties were good, though primitive. The alkaline reserve was 54 per cent. by volume, the serum calcium 11.2 mg. per 100 c.cm., and the urinary creatine 59.8 mg. per 100 c.cm.

Radiographic Examination.—A skiagram of the skull taken nine years ago shows a conspicuous thickening of the cranial bones, especially in the frontal area. The same appearance is seen in the pictures taken four years ago (Plate, Fig. 1). The thickening of the occipital bone is now somewhat less pronounced and there is a senile atrophy of the mandible. No abnormality can be detected in the vascular pattern, the sella turcica, the sphenoidal sinuses, and the petrous bone. A skiagram taken one year later shows a more pronounced thickening in the frontal bone above the sinus, with marked enostosis. The frontal portion of the falx cerebri is calcified. The same changes, but more pronounced, are seen in the skiagram taken in 1936 (Fig. 2). Here the sella turcica shows some degree of decalcification.

The above case report corresponds with the Stewart-Morel syndrome of hyperostosis frontalis interna in the following particulars:

1. The progressive, symmetrical, and diffuse thickening of the cranial bones, most marked in the frontal and less marked in the parietal regions. The anterior portion of the falx cerebri is calcified and there is enostosis on both sides of the frontal bone.

2. Obesity of the rhizomelic type, developing during the past eleven years.

3. Intractable headaches, especially localized in the left frontal region.

4. Inverted sleep rhythm.

5. Psychological disturbances: (*a*) impairment of memory and attention; (*b*) depression, anxiety, and irritability; (*c*) personality changes—egocentricity, hypochondriacal trends.

On the other hand our patient gave no evidence of excess of appetite, epileptiform attacks, visual disturbance, or dysuria—symptoms which are occasionally present in this disorder. According to Carr (1936) convulsive manifestations have been observed in 35.3 per cent. of the cases on record.

Comment

This case is of interest for two reasons. In the first place repeated radiographic examination has shown slow progression of the bony changes. Secondly, the onset of the symptoms at the age of 61, following a trigeminal herpes zoster, is noteworthy. In this connexion we recall van Bogaert's case, that of a woman aged 62 with bilateral optic atrophy associated with the progressive ossification of the frontal bone. The unilateral occurrence of trigeminal symptoms in our patient is most probably due to the asymmetrical extension of the frontal hyperostosis.

Aetiology

Most writers have attributed this disease to a disorder of the fat and calcium metabolism. It is a striking fact, however, that Schiff and Trelles alone have been able to demonstrate a hypercalcaemia. Carr recorded a periodic creatinuria in his patients; this also occurred in the present case.

The theory of disordered fat metabolism has been corroborated by Mortimer's (1936) experiments on rats. Mortimer gave the animals the ketogenic factor of the anterior lobe of the pituitary gland. The animals so treated not only became fat but also showed a marked sclerosis of the calvarium. This experiment is of importance, too, in that it localizes the causation of the disease to the anterior lobe of the hypophysis. Stewart (1928) also inclined to a dyspituitary hypothesis, while Morel (1930) found in four patients very pronounced histological changes in the nuclei around the third ventricle. On this basis he localizes the lesion generally to the tuber-infundibulum-hypophyseal system, particularly in the posterior lobe of the pituitary body. In association with this conception is Moore's (1935) finding of thyroid disorder in 4.4 per cent. of his cases, while Carr described menstrual disturbances in 76.4 per cent.

Can the syndrome in question be considered an independent disorder? Henschen (1936) denies it, since frontal hyperostosis without accompanying symptoms is to be observed in 50 per cent. of women above the age of 50. In his own words, "the so-called Stewart-Morel syndrome is merely imagination."

In the light of the work carried out by Moore (1935), Mortimer, and others one must suppose that Henschen observed abortive or incompletely developed cases. The early stage of the disorder is well illustrated by Somogyi and Bak's (1937) patient, in whom there was only an early degree of hyperostosis with all the other symptoms fully developed.

Our case, together with the data to be found in the literature, inclines us to the opinion of Schiff and Trelles, according to whom the picture is not at present sufficiently circumscribed to be called a specific disease. We must consider the term "syndrome" correct and justifiable from a clinical viewpoint.

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In fifty-eight large towns in Germany there was a 2.8 per cent. decline in the mortality from tuberculosis in 1937, the deaths from this cause being 6.9 per 10,000 inhabitants, as compared with 7.1 in 1936. On the other hand there was a rise in the mortality from tuberculosis in Berlin, the Silesian towns, and the harbour towns in 1937.

Clinical Memoranda

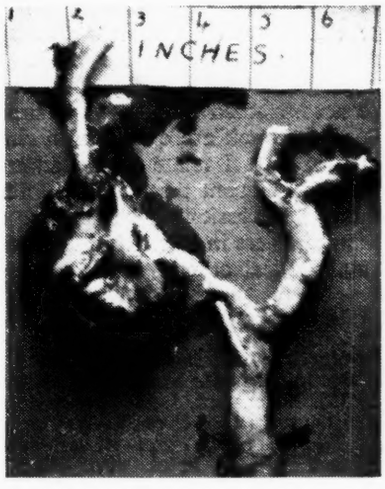
Saccular Aneurysm of Left Common Iliac Artery

In the evening of December 21, 1937, a stout married woman aged 71 was admitted to hospital with the following history.

CASE RECORD

The patient had enjoyed good health until the previous evening, when she developed a pain in her back which, although not severe, caused her to retire to bed earlier than usual. The next day she got up and did her usual work until about 3.45 p.m., when a sudden severe pain occurred in the lower abdomen. Shortly afterwards she sent for her doctor, who had her immediately transferred to hospital.

On admission she was very pale and restless, was perspiring freely, and was suffering from marked dyspnoea. Her temperature was subnormal, and her pulse rate 140 per minute and of very poor volume. Examination revealed a large



palpable mass in the left side of the abdomen, attended with little tenderness and no rigidity of the overlying muscles. Nothing abnormal was detected on rectal examination. The patient died about half an hour after admission.

The post-mortem examination disclosed a large retroperitoneal haematoma in the left side of the abdomen, displacing the descending colon forwards and separating the layers of the pelvic mesocolon. Removal of the blood-clot revealed a saccular aneurysm of the left common iliac artery about the size of a hen's egg. There was a well-marked constriction of the vessel immediately proximal to the aneurysm. The lateral wall of the sac was found to be ruptured at its proximal end, and the anterior wall was split into two layers over an area of about two square inches, suggesting that a dissecting aneurysm had preceded the actual rupture. Many atheromatous plaques were present in the aorta, microscopical sections of which showed advanced atheromatous changes with degeneration and calcification, but no typical appearances of syphilitic aortitis. Sections showed changes in the vessel wall at the edge of the aneurysm similar to those present in the aorta, except that there was no actual calcification.

My thanks are due to Mr. J. M. Slater for permission to report this case, and to Dr. W. McNaughton for preparing the pathological sections.

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Reviews

RESPONSE OF LIVING TISSUES TO INJURY

The Basis of Tissue Evolution and Pathogenesis. By Albert A. Gray, M.D., F.R.S.E. (Pp. 92; 11 illustrations, with Frontispiece. 7s. 6d. net.) Glasgow: Jackson, Son and Company. 1937.

The late Dr. Albert Gray left the draft of a book which it is believed that he intended to publish some time in 1936. After consultation with Sir Robert Muir and Professor Graham Kerr the manuscript has been edited by Dr. Oliver Gray with the least possible alteration and published in memory of his father under the title of *The Basis of Tissue Evolution and Pathogenesis.*

The theory proposed is based upon the nature of the response which the living tissues make to injury. The question is asked at the beginning: "Why should repair or healing take place at all in a living body?" It cannot be admitted that it was originally teleological. Evolution by spontaneous variation, either gradually or by sudden mutation, is rejected as needing such an extraordinary sequence of coincidences that it is utterly improbable. The essay is based upon the hypothesis that the variations which result in evolution are induced variations caused by the response to injury and the repair of tissues. The term "injury" is used by the author in the widest possible sense and includes the idea of stimulus, so that in time, by repeated repair from the effect of injury, what formerly constituted an injury has become a stimulus. Thus the response to changes in environment takes the form of "induced variation," in contrast to the idea of "spontaneous variation," which is rejected. Evolution on these lines is illustrated by the comparative anatomy of the labyrinth, an organ which had been the object of particular study by Dr. Gray. The evolution of the labyrinth is discussed at some length and illustrated by a number of figures taken from the author's book *The Labyrinth of Animals.* The origin of the changes which produce chronic inflammation is also discussed and brought into line with this theory, which shows how the qualities possessed by fibroblasts and young epithelial cells have been produced. These were not originally teleological in the sense that they were designed to protect the individual animal, though the process ultimately comes to have the appearance of a purposive act.

This study of evolution by Dr. Gray is of profound interest, because he insists upon the need for taking into account pathological as well as physiological processes and because he attempts to show that the process of repair in a wound is an epitome of the process of the differentiation of the tissues in the evolution of the race, and parallels the development of the embryo, which is an epitome of the development of the individual. In pathology the examples chosen are inherited deaf-mutism and otosclerosis. Whether the theory proposed is true or not, it is at least logical; it has come from one who was an accurate thinker and cautious writer; it combines the philosophy of comparative anatomy and pathology in a fascinating manner, and therefore it must receive serious attention as a contribution to the study of evolution. It is unlikely that, had the author survived, he would have published it exactly in the form in which it now appears; this must disarm criticism and allow tolerance of certain defects of style and composition.

DIGITALIS THERAPY

The Clinical Use of Digitalis. By Drew Luten, A.B., M.D. (Pp. 226. 16s.) London: Baillière, Tindall and Cox. 1936.

In this monograph Dr. Luten takes as his text the aphorism of Wenkebach that "what helps the individual most is to be taken as the best treatment for him, whether it be possible or not to analyse its action in every detail." This principle applies with special force in the case of digitalis; much is known of its effects upon the heart and circulation, but a great deal remains to be discovered. Not content with admitting the gaps in our knowledge, the author considers in his first chapter a most controversial and fundamental problem—the direct effect of digitalis upon the heart muscle. The well-known evidence from clinical, pharmacological, and experimental sources is dispassionately sifted and the conclusion is reached that digitalis has an effect upon ventricular muscle; many have held this to be true, but orthodox teaching at the present day would hardly go as far as Dr. Luten in claiming that "the therapeutic efficacy of digitalis results from the action of the drug upon ventricular muscle," or agree with his implication that ventricular slowing during treatment by digitalis of heart failure with fibrillation is an incidental effect rather than one of primary importance.

Many other matters of interest and clinical value are discussed; in his section on dosage and methods of administration the author rightly insists that in the vast majority of cases digitalis should be given by the mouth, the best preparation being the powdered leaf in capsules, tablets, or pills. While intravenous or rectal administration may be demanded on account of urgency or vomiting, respectively, discomfort and uncertainty of absorption rule out the subcutaneous or intramuscular routes. There is no doubt that such haphazard injections are given far too frequently and often quite without regard to indications for digitalis therapy. Dr. Luten's monograph is balanced, thoughtful, and well produced.

PHYSICAL MEDICINE AT FULL LENGTH

Précis de Physiothérapie Clinique. By Dr. Paul Duhem. (Pp. 604; 165 figures. 130 fr.) Paris: Gauthier-Villars. 1937.

This weighty volume is indeed an encyclopaedia of physical medicine, dealing with all the principal physical methods and describing their use in many diseases. So comprehensive is the consideration given to individual maladies that the book almost serves as a treatise on medicine, and it has throughout an essentially clinical character which is valuable in a subject which has at times lent itself to much theoretical speculation. The author, Paul Duhem, has for years been dismayed at what he considers to be one of the greatest gaps in medical organization in France—namely, the lack of liaison between specialists practising different branches of physiotherapy, which made it almost impossible until recently for a patient needing several kinds of treatment to obtain them under one roof. The patient was obliged to travel from one place to another and be treated by different people for such obviously related processes as *x*-ray, manipulative, and electrical treatment. Dr. Duhem has been at pains to end this failure of co-ordination, and in his *Précis de Physiothérapie Clinique* he has endeavoured to present a broad view of physiotherapy as a whole in order to show the unifying interrelationship which exists between its different branches.

As the book has been based on the personal experience of thirty-five years' practice in a rapidly developing science, it has an engaging and practical interest which should attract both student and specialist. The section on diseases of the nervous system (some 170 pages) describes the most original part of the author's work, and the study of disorders of nutrition is considered from a fresh and stimulating point of view. Among the simpler forms of electrical treatment it is interesting to note that Dr. Duhem regrets the passing of the static bath. He regards radiant heat as a wonderful therapeutic agent, but is perhaps somewhat spartan in his use of cold douches when prescribing hydrotherapy. While commending diathermy as the best method of epilation, he has used thallium acetate in ionization with good results, and he describes ionization with histamine, though very irritant, as "spécifique des douleurs rheumatismales rebelles." He has more than the usual faith in the Bergonie treatment of obesity. Of short-wave therapy he has little to say beyond observing that up to the present it has not cured any more patients than ordinary diathermy. We can find no mention of the success of short waves in furunculosis, but Dr. Duhem describes radiotherapy in well-filtered doses as a "marvellous" means of procuring rapid healing.

The author confesses to a certain degree of laziness in using borrowed illustrations for his book. The photographs illustrating the testing of muscle movements are good and are accompanied by clear explanatory remarks. The contents of the book are classified in chapters under headings which in Part I relate to the different physical methods, and in subsequent parts to the different systems and diseases under discussion. The last two chapters are on accidents and dangers in electricity. There is no index arranged in alphabetical order.

SURGICAL DIAGNOSIS

Précis de Diagnostic Chirurgical. Published under the direction of Ch. Lenormant. Volume I, *Généralités: Tête et Cou.* By Ch. Lenormant, J. Sénèque and P. Wilmoth. (Pp. 764; 196 figures. Paper cover, 80 fr.; bound, 105 fr.) Volume II, *Thorax, Sein, Paroi Abdominale, Organes Génitaux Externes.* By J. Patel. (Pp. 490; 138 figures. Paper cover, 50 fr.; bound, 70 fr.) Volume III, *Abdomen et Pelvis.* By G. Menégaux. (Pp. 964; 212 figures. Paper cover, 100 fr.; bound, 125 fr.) Volume IV, *Membres.* By J. Sénèque. (Pp. 630; 168 figures. Paper cover, 70 fr.; bound, 90 fr.) Paris: Masson et Cie. 1937.

Précis de Diagnostic Chirurgical is a compact four-volume work which has been published under the general direction of Professor Lenormant. It is ambitious in scope, covering general surgery and gynaecology and comprising nearly three thousand pages, which are, however, well illustrated, and, since their subject-matter is well grouped and set out, they make by no means tedious reading. The work constitutes the latest of the well-known "précis" series published by Masson et Cie, and its various parts are written by Professor Lenormant himself or his pupils—MM. G. Menégaux, J. Patel, J. Sénèque, and P. Wilmoth. The editor points out that it is designed not for the beginner but for the more mature student and practitioner. In his introduction, which is repeated in each of the four volumes, he quotes a remark of Rabelais: "La Médecine est un farce à trois personnages: le malade, la maladie et le médecin," and this textbook should prove of great assistance to certain of those who have to play one of the parts in the farce; from the chief actor—the patient himself—however, it must be kept, since the illustrations are so graphic that their effects might be disastrous to him and the farce might be turned to tragedy. Most of these

illustrations are photographs, and their reproduction is excellent, and the same may be said of the majority of the *x*-ray pictures.

Volume I deals with general considerations and with surgical diseases of the head and neck, and is written by Professors Lenormant, Sénèque, and Wilmoth; volume II, the chest, abdominal walls, and external genitalia, is by Dr. Patel; volume III, the abdomen and pelvis, by Professor Menégaux; and volume IV, the limbs, by Professor Sénèque. In a necessarily rather limited work dealing with a vast field it is easy to be critical of the degree of emphasis given to certain subjects and the comparatively brief reference to others. Criticism is almost bound to arise, no matter how carefully and judiciously subject-matter has been selected by the contributors; but after making due allowance for such considerations there are parts which are somewhat disproportionate. Thus a picture is shown of a meningocele outlined by lipiodol in an infant of 8 months, but a series of good ventriculograms or arteriograms is absent. A lipiodol injection in a case of cord compression by secondary carcinoma is shown, but the lipiodol appearances in spinal cord tumour and in meningitis serosa are wanting; although secondary carcinoma in the spine is unfortunately not uncommon, cord compression therefrom is, while spinal tumours and chronic meningitis are not infrequent and their differentiation is important. In future editions it is to be hoped that such omissions will be rectified. When this has been said there can be nothing but praise for the work. It is likely to have an appeal to many other than the pupils of Professor Lenormant and his distinguished assistants, and beyond France itself. It will make a useful addition to the bookshelf of the consulting surgeon who reads French.

CHEMISTRY OF SEX HORMONES

The Chemistry of Sex Hormones. Tabulae Biologicae. Vol. xv, Part 1. Edited by W. Junk, C. Oppenheimer, and W. Weisbach. (Pp. 144. Whole volume, Fl. 35; reduced price for subscribers, Fl. 30.) The Hague: Dr. W. Junk. 1938.

This outline of knowledge concerning sex hormones provides an interesting illustration of the results of the impact of organic chemistry on physiology. The chemical nature of the oestrin group was first discovered in 1932, and readers will remember the interest created by the discovery that this hormone was a sterol derivative. Soon afterwards it was discovered that the hormone of the corpus luteum and the male sex hormone had a similar chemical composition. This group happens to be one which favours the manipulations of organic chemists, and the result of their activity is shown by a series of tables now published from Professor Laqueur's department.

One hundred and twenty-eight compounds are listed under the title "Male sex hormones and their derivatives," and the physiological activities of about one-half of these have been demonstrated and measured. Sixty-nine compounds are included under the head of "Substances with oestrogenic activities," but this list is really incomplete because it contains only the sterol derivatives and does not include the various simple aromatic compounds which also have been shown to possess powerful oestrogenic activity. Forty-six compounds are described under the heading "Corpus luteum hormone and its derivatives." These figures suggest that members of the sex hormone group of sterol derivatives are developing a complexity comparable to that of some of the groups of dyestuffs, and it is evident that the developments in a subject of such complexity can only be followed by specialists who devote their whole time to such a study.

That a subject of this complexity can develop in less than a decade suggests that biological workers will find increasing difficulty in keeping pace with the activities of the organic chemists, a development that may call for an increasing degree of organization and collaboration between physiological laboratories. The facts mentioned provide a striking proof of the rapidity of the advance in knowledge of the chemical substances which control the sexual functions, and it is reasonable to hope that this will lead in its turn to important clinical advances.

YEAR BOOK OF DERMATOLOGY

The 1937 Year Book of Dermatology and Syphilology. Edited by Fred Wise, M.D., and Marion B. Sulzberger, M.D. (Pp. 736; 110 figures. 3.00 dollars; 12s. 6d. Postage 6d.) Chicago: Year Book Publishers, Inc.; London: H. K. Lewis and Co., Ltd. 1938.

As usual, the editors have produced an interesting volume in which they review the work that has been done on dermatology during the past year. In accordance with their usual custom they start with an article of special interest to the general practitioner, and on this occasion they devote it to the modern treatment of common fungus affections, the importance of which has become well recognized during recent years. Their article is full of practical points, and we are glad to notice that they warn the reader against making the diagnosis of mycotic infection without adequate reason, and they rightly state their opinion that many cases of so-called dermatophytosis and dermatophytids are not of fungous origin at all and hence do not respond to a therapy based on an erroneous diagnosis. No very striking advance appears to have been made in dermatology during the past year, though there is plenty of evidence of very active work all over the world. Many workers have been trying to extend the application of the comparatively recently introduced Grenz rays into dermatology, and it appears that these have a very definite place in therapeutics. They are much safer than *x* rays, and in certain cases are more effective, notably in the treatment of very superficial naevi, such as port-wine stains, and also in the rare Darier's disease, a complaint which is practically resistant to *x* rays. From the public health point of view the most important progress to be noted is the rapid spread of measures for the control of venereal disease throughout the United States of America. Apparently they have been several years behind this country in adopting a comprehensive scheme for this purpose. The editors of the year book regret the absence of provision for in-patient treatment of all patients actively infective, otherwise they heartily support the efforts of the authorities. We recommend the year book to the attention of dermatologists.

Notes on Books

In our review of the first edition of *The Social Structure of England and Wales*, by A. M. CARR SAUNDERS and D. CARADOC JONES, its value was indicated, and we are not surprised that a new edition has been required (Oxford University Press, 10s.). The object of the book was to give a succinct account of the numbers, age distribution, housing, education, occupations, wealth, and qualities of the people, an account based mainly upon official statistical data. Since the first edition appeared some ten years ago another census has been taken; in this edition the new data are incorporated, and in some cases comparisons between the results of the last two censuses are made.

For instance, it is pointed out that although only 4 per cent. of the occupied population are engaged in what are usually termed professions, professional workers have increased by 20,000 between the censuses of 1921 and 1931 and at a higher rate than the occupied population as a whole. The general plan of the first edition is closely followed, but much new material has been incorporated, and the book will certainly be valuable, particularly to those who have not access to census volumes.

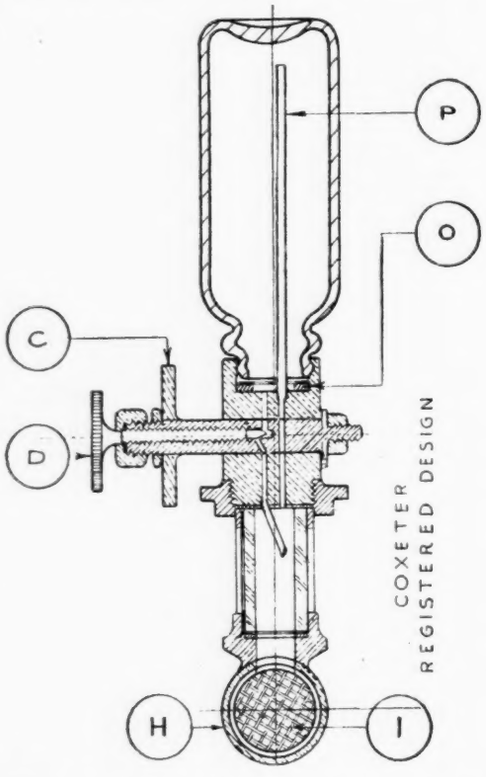
Professor VITTORIO RUATA has brought out the first Italian monograph on tropical ophthalmology to satisfy, as he explains, the need of the Italian colonial empire. *Oftalmologia dei Passi Caldi* follows the usual classification adopted in textbooks of this kind. Such departures as there are consist of eponyms instead of more accepted international usage. Thus sleeping sickness is named Castellanosis. The book is profusely illustrated, and should help to fill a gap in Italian ophthalmic literature. It is published at Milan by Ulrico Hoepli, and the price is 45 lire.

Preparations and Appliances

A DRIP FEED FOR DIVINYL ETHER

Dr. T. A. B. HARRIS, anaesthetist to Guy's Hospital, writes:

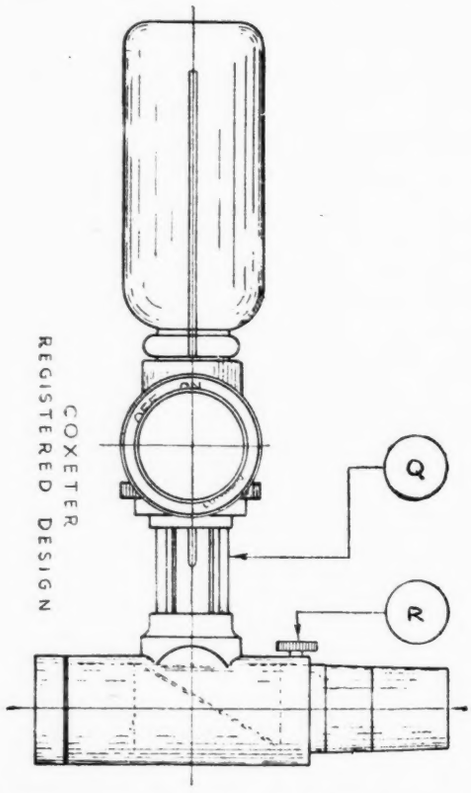
The drip feed illustrated below has been designed to be used on any type of Boyle or McKesson apparatus. It is made so that it can be carried or left attached to the apparatus without fear of the liquid escaping by evaporation or leakage. This is made possible by a revolving sleeve, controlled by the larger milled wheel C which in the position "off" closes both the inlet and the drip outlet when the attachment is not in use.



A standard size bottle of divinyl ether is screwed firmly into the base, care being taken to see that the foil-covered washer O is in place. In this position the bottle, base, and sight feed are suspended vertically beneath the tubular mount which attaches them to the machine. When so arranged, with the larger milled wheel C in the "off" position, not only is the bottle cut off from the sight feed but the latter is also cut off from this tubular mount, and added security is thus provided from the unintentional contamination of gases flowing through the tubular mount from the anaesthetic apparatus to the face mask. In this position divinyl ether has remained in the bottle for three weeks without any loss of volume.

When required for use, the apparatus is revolved on its tubular mount through 180 degrees and is held in place by the screw R. The sight feed is now in free communication with the tubular mount with the bottle standing inverted above the mount. The larger milled wheel C is then turned counter-clockwise to the position "on." This opens the inlet, thus equalizing the air pressure, in the bottle above the fluid and in the tubular mount and sight feed, and allows fluid to enter the drip outlet. The rate of drip is then regulated by means of the smaller milled wheel D, which, turned counter-clockwise, increases, and, turned clockwise, decreases the rate.

Anaesthetic fluid drips through the glass chamber Q on to a metal gauze (I) in the tubular mount, where it is vaporized



by respiratory gases. The rate of drip having been adjusted, it can be interrupted at will by means of the milled wheel C without altering this adjustment.

I have used this attachment for the past eighteen months with satisfactory results, mostly for divinyl ether, but also for ether and chloroform. It is especially suitable for closed anaesthesia, for fluids are volatilized without resistance to breathing. It has been made to my instructions by Coxeter and Son, Ltd., Morden Road, London, S.W.19.

THROAT AND NASAL ATOMIZERS

We have received from the Gardner Company new throat and nasal atomizers. One type of atomizer has a patented adjustable jet and shield; both are so firmly attached that there is no danger of the shield slipping off when the spray is being used, and the spray can be directed upwards or downwards through a range of some 90 degrees. The retail price of this atomizer is 5s. 9d. Further details may be obtained from the manufacturers at 7, Chapel Street, Milton Street, London, E.C.2.

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THYROTOXICOSIS

The awakening of the medical profession of this country to the importance of thyrotoxicosis or hyperthyroidism has come from various sources. We may recall that in this *Journal* eighteen years ago J. Strickland Goodall and Lambert Rogers[1] pointed out the paramount importance of the cardiac condition in the disease and strongly advocated surgical treatment—subtotal thyroidectomy—because they were convinced that it offered the best means of success. Surgical treatment, which had fallen into abeyance owing to the difficulties of anaesthesia and disastrous toxic after-effects of operation, was re-established as a reasonably safe procedure by Berry, Dunhill, and Joll. The new teaching spread to practitioners throughout the country; they became more alive to the facts, and their diagnosis was thus improved. These features alone cannot fully account, however, for the increase in the number of cases reported, and the evidence would show that the disease is more prevalent. In a careful analysis of the Registrar-General's figures made by Mr. Peter McEwan and reported elsewhere in this issue, it is shown that there is a high and rapidly increasing death rate. During the year 1936 no fewer than 1,696 deaths were attributed to thyrotoxicosis in England and Wales, and of these some 60 per cent. had some form of heart trouble. McEwan's analysis of the homes of these patients leads to the conclusion that there is a very varied distribution of cases throughout the country, and that the incidence is highest in the mountainous regions of Westmorland and Mid-Wales and in Huntingdon. Among the aetiological factors in thyrotoxicosis the stresses of life have been emphasized. These can hardly be great in the country districts named, certainly not as great as in the towns and thickly populated areas; and it may well be that the inbreeding prevalent in these regions has a tendency to bring out the hereditary factors. Nevertheless, many shrewd and competent observers are convinced that the stresses of life do play an important part; for instance, Dunhill[2] writes, "The frequency and the extent of emotional disturbance among these patients surprise me." It may be that in certain districts soil conditions may conduce to sub-efficiency of the thyroid gland. Campbell's survey of the geographical distribution of the death rate during the years 1913–19 shows a close parallelism with McEwan's figures, and Campbell[3] concluded that there was some degree of correspondence between the incidence of simple goitre and of the thyrotoxic deaths. Dunhill may be quoted again as stating that very few patients who carry a simple goitre into middle life escape the development of toxic symptoms.

Thus it may be profitable to argue that the death rate would be reduced by timely operation on simple goitres or goitres that are in the early stages of toxicity. Before passing judgment on this, however, it is necessary to discuss two further points: first, are the statistics a complete statement of the occurrence and death rate of thyrotoxicosis? and, secondly, are therapeutic measures other than surgery available and adequate? The term "thyrotoxicosis," introduced when an altered secretion or dysthyroidism was postulated, remains a convenient generic term to cover a number of manifestations of hyperthyroidism, and to bring under one heading the varied nomenclature without defining the underlying pathology. There is much to favour the adoption of the term "toxic goitre," since it should be insisted on that in thyrotoxicosis there is always a goitre, though it may not always be obvious. Pursuing his interpretation of the underlying pathology, Dunhill has remained an advocate of the essential unity of toxic goitre. Thus the only masked thyrotoxicosis is where the goitre is situated behind the sternum and can only be revealed by *x* rays or surgery. The varied clinical manifestations are to be regarded as complications, not masks. Digestive disturbances of stomach and bowel, emaciation, mental instability, and, above all, heart symptoms, may dominate the picture, but in all there is the central toxic goitre. The cardiologists have especially insisted on thyrotoxic cardiovascular phenomena—irregularity of the heart, especially auricular fibrillation, hypertension, and angina.[4] Thyrotoxicosis is, however, not an oasis, with a central toxic goitre as a well, situated in an unrelated desert. It is distinctly engrafted on a soil that takes a share in the resulting phenomena. Thus in the *formes frustes* there is a gradual series, to which goitre and patient contribute as variable factors, radiating outwards from frank thyrotoxicosis to neuro-circulatory asthenia, to neurosis, to mental instability, to digestive disturbances, to cardiac failure apart from thyrotoxicosis, to emaciation, so that at the periphery no element of thyrotoxicosis is present.

[1] *British Medical Journal*, 1920, **2**, 588.
[2] Dunhill, T. P., *Trans. med. Soc. Lond.*, 1937, **40**, 244.
[3] Campbell, J. M. H., *Quart. J. Med.*, 1924–5, **18**, 191.
[4] Hay, J., *Lancet*, 1936, **2**, 1377.

Because of this there is an important medical aspect and function in diagnosis and treatment. Early recognition followed by rest and nursing may arrest or retard deterioration, but the most careful supervision is necessary, since the patient may quickly slip back. There is a place, too, for iodine in medical treatment. Its use in surgery may be shown in the widely published views of Pemberton from the Mayo Clinic that the total death rate during the period before iodine was used in preparation for operation was at least eight times greater than it is to-day. Sound medical opinion is that the use of iodine obstructs the delivery of the thyroid hormone to the body at any stage of the disease, and may thus hold control while the stimulus to the production of the hormone has time to subside. For iodine affects not the course but the intensity of the complaint, and appears to be useful at any stage. Indeed, apparent iodine resistance may mean that the disease is increasing too rapidly in severity.

Authoritative surgical figures show that 60 to 70 per cent. of patients are able to resume normal life and work, and that over 80 per cent. of cases of auricular fibrillation regain normal rhythm. But in McEwan's analysis operation was stated to be the cause of 276 of the 1,696 deaths reported in 1936. On the other hand, there are under 3 per cent. of deaths over a series of all sorts of cases, often very severe, when the preparation, the technique, the division into stages, and the after-care are thoroughly planned. They would seem to be worth while. It is necessary to judge which cases are due to toxic goitre and will therefore respond to surgery. With accompanying heart disease, irregular rhythm and congestive heart failure, far from being contraindications, are really strong indications for operation. The operation of complete thyroidectomy in all cases of congestive heart failure is, however, not rational; good may be done to many, perhaps to more than we think, but not to all. These clinical problems of thyrotoxicosis deserve ventilation, and careful balanced work such as Mr. McEwan presents is needed, and welcome.

THE ADRENO-GENITAL SYNDROME

Dr. H. W. C. Vines and Mr. L. R. Broster, together with their collaborators, are to be congratulated on an admirable step in the elucidation of the complicated subject of the adrenal cortex and intersexuality.[1] It was a fortunate circumstance that Dr. Vines was able to establish a definite fact as a starting point for this research—namely, the association of a fuchsin-staining cell with virilism. This observation, which has been confirmed, can now be accepted as proved, and it affords a touchstone by which theories can be tested. With its aid progress became rapid. The whole research is an example of successful teamwork involving the consulting-room, the operation theatre, and the laboratory, as the plan of this monograph shows, and Sir Walter Langdon-Brown brings out this point in his foreword.

The first part is devoted to a clinical study of the adreno-genital syndrome; the physical and surgical section by Mr. Broster, and the psychological by Dr. Clifford Allen. There is a full account of the technique and results of the operation of unilateral adrenalectomy as worked out by the former, and the correlation of the physical and psychological aspects of virilism has led to some useful results. Such abnormalities may be either endocrine or psychological in origin, while often both factors are involved. The evaluation of the extent to which either is responsible must have an essential influence on the type of treatment to be adopted. It is a familiar fact to all physicians that any departure from normal sexual development produces a degree of psychological disturbance and distress which is quite incommensurate with the physical abnormality. Nor is the injury confined to the victims alone; their influence in the community must also be taken into account, as the scientific study of delinquency is daily showing more clearly. The second part of the monograph is devoted to laboratory studies. Here Dr. Vines gives an account of the histology of the syndrome, which is followed up by two investigations on the biochemical side, one by Dr. Jocelyn Patterson and Dr. Alan Greenwood, the other by Professor Marrian and Mr. Butler of Toronto. It is this all-round approach to the subject which gives the study its particular value.

There is to-day general agreement that virilism in women may arise from one of three main causes—pituitary, adrenal, or ovarian; the pituitary disturbance usually involving the basophil cells. Since Professor Woollard threw doubts on the specifically gonadotropic function of these cells there has been a change in our interpretation of some of the features of Cushing's syndrome. While Crooke has shown that the essential characteristic of the syndrome is a hyaline change in these cells, it has also been found that thymic growths can lead to the condition, by some means as yet unknown. In other instances the adrenal changes far exceed the pituitary ones. Thirdly, virilism may result from a tumour of the rete of the ovary, the arrhenoblastoma, which sometimes

[1] *The Adrenal Cortex and Intersexuality.* L. R. Broster, M.Ch., F.R.C.S., Clifford Allen, M.D., H. W. C. Vines, M.D., Jocelyn Patterson, M.Sc., Ph.D., Alan W. Greenwood, Ph.D., D.Sc., G. F. Marrian, D.Sc., G. C. Butler, B.A. (Pp. 1,091. 37s. 6d.) London: Chapman and Hall. 1938.

simulates the structure of seminiferous tubules. This has emphasized the bisexual nature of the ovary, and we are led to the view that the influence of the pituitary basophil cells normally inhibits the androgenic cells already existing in that organ. Virilism of pituitary origin, then, is of the nature of a release of androgenic factors in the ovary. Primary adrenal virilism, on the other hand, by increasing the fuchsinophil cells in the gland positively increases the androgenic factor, though, as shown by Achard and Thiers as long ago as 1921, both pituitary and adrenal factors may be involved. This was confirmed by Parkes Weber's case reported in 1926, and included in Cushing's original survey; in that case there was a small basophilic adenoma in the pituitary with adrenal cortical hyperplasia. But in such cases it would appear likely that the pituitary changes are primary, so great is the influence of the pituitary on the other endocrine glands. In this monograph by Mr. Broster and his fellow workers the general principle is laid down that the occurrence in the female during early foetal life of a short period of androgenic heterosexual development of adrenal cortical origin introduces an element of instability in the female which is rare in the male. It is generally admitted that the earlier in life that such heterosexual elements increase, the greater the physical abnormality, while with later changes the psychological abnormalities predominate. We are left with the conclusion that feminism in males is purely psychological, except in the rare instances of an included female twin forming a teratoma.

The thanks of the profession are due to Lord Wakefield of Hythe, whose generosity has made this valuable addition to medical knowledge possible.

A PNEUMONIA EPIDEMIC

Primary pneumonia is a notifiable disease in this country, wherein presumably it is recognized as being communicable. Infection with a virulent pneumococcus from an extraneous source is usually assumed to be one of the factors in its origin, but the established disease is not infectious to any degree warranting the accepted use of this term. Nevertheless, it does occasionally assume epidemic form, and an extensive outbreak of this kind with several points of unusual interest is recorded by W. G. Smillie, G. H. Warnock, and H. J. White.[1] It occurred in the State Mental Hospital at Worcester, Mass., which has a population of 2,400 patients and 600 staff, and was preceded by an epidemic of influenza; the pneumonia which followed, however, was primary, and did not arise as a complication of an attack of influenza in the individual case. In all, nearly 100 cases of pneumonia occurred over a period of eight weeks, the great majority of which were of the lobar type and proved to be due to a Type I pneumococcus. From the fact that they arose in many different parts of the hospital it appeared likely that this pneumococcus had become widely distributed, and this assumption was confirmed by nasopharyngeal cultures from a random sample of the population; fully 10 per cent. were carriers. The identification and isolation of all the carriers, of whom there must have been at least 200, was considered impracticable, and it was decided to try to check the epidemic by active immunization of the entire population. It will be remembered that studies have lately been made in the U.S.A. of immunization with preparations of pneumococcus polysaccharide; it has been shown by Felton that a single injection stimulates apparently adequate antibody production. Proof of actual protective power is naturally difficult to obtain in ordinary circumstances, since the likelihood that any significant number even among some thousands of people will develop pneumonia within a given period is small. In circumstances such as those existing at this hospital the liability was great. Following almost universal treatment with a single dose of Felton antigen there was a sudden fall in the incidence of pneumonia; of the few further cases which occurred only four were of Type I, and all but one of these were in individuals among a group of 200 who had refused the antigen. At a late stage in these events a branch hospital which until then had escaped became involved in the outbreak, and there were good reasons for attributing this to the transfer of a single patient who conveyed the infection from the main hospital. The experience already obtained was here repeated on a smaller scale, with the important difference that the outbreak was apparently checked after only a fortnight, whereas argument by analogy would justify an expectation that if unhindered it would have continued longer. In the absence of an adequate proportion of control cases these observations are not fully conclusive, but they amply justify resort to this method of immunization whenever the rare and serious emergency of a pneumonia epidemic should arise.

[1] *Amer. J. publ. Hlth.*, 1938, **28**, 293.

PREMEDICATION FOR TONSILLECTOMY

Questionaries, though a source of legitimate annoyance to busy hospital superintendents and practitioners, serve as a convenient means of collecting statistical information, if due allowance be made for the personal factor. On the whole they appear to be more widely used in America than in this country. An interesting survey concerning the use of pre-operative medication for tonsil and adenoid operations in thirty American hospitals has recently been made with the aid of questionaries by H. D. Harlowe.[1] Of the 180,000 operations reported in about 90,000 some form of pre-operative medication was received. The number of hospitals using premedication as a routine was sixteen (approximately 50 per cent.), five hospitals (20 per cent.) used premedication to some extent, and nine (30 per cent.) not

[1] *Bulletin of the National Association of Nurse Anesthetists.* February, 1938.

at all. The surgeons in the habit of employing pre-operative drugs agreed that these were a definite aid in the anaesthesia. In a three-year period no serious complications were attributed to their use. The author's personal experience is based on a series of 250 tonsil and adenoid operations prior to which atropine, atropine and codeine, atropine and nembutal, or atropine and morphine had been administered. The observations were compared with those in a control series of an equal number of operations without pre-medication. The surgeons, anaesthetists, and nurses were invited to record their impressions carefully in each case. There was general agreement that with pre-medication induction of anaesthesia was shorter, the anaesthesia itself smoother, and less anaesthetic was required, and that the children behaved better after the operation. On the whole a combination of atropine with nembutal ($\frac{1}{4}$ to $1\frac{1}{2}$ grains from 6 to 16 years) was found to give the best results.

MÉNIÈRE'S DISEASE

An important contribution to our knowledge of the pathology of Ménière's disease comes from the Otological Research Laboratory of the Johns Hopkins University,[1] based on a study of ninety-four patients with severe and intractable vertigo who were cured by intracranial division of the vestibular nerve. According to Dr. Crowe it is a mistaken idea to look upon this brain operation as a terribly severe one. There is a great difference between the removal of a brain tumour and the operation for the cure of Ménière's disease. In one the intracranial pressure is increased, while in the other there is no change at all. In 90 per cent. of the cases the disease was unilateral and the hearing in the affected ear was markedly impaired. The entire auditory nerve was cut in forty-nine cases, curing the vertigo but destroying what hearing was left. The necessity for preserving hearing, however bad, in the occasional case with bilateral Ménière's disease, or bilateral deafness from other causes, led to the development of the ideal operation—division of the vestibular nerve alone—and this was done in forty-five cases. The vertigo is nearly always associated with tinnitus. Anatomically the only region where a single lesion could cause these two symptoms is in the membranous labyrinth, where the vestibular and cochlear end-organs are bathed by a fluid common to both—the endolymph. Vestibular tests should be done in patients with Ménière's disease as part of the clinical investigation. Dr. Crowe employed only the milder caloric test, because the rotation test may precipitate an attack of vertigo—so much dreaded by the patient. Nearly 30 per cent. of the cases gave no vestibular response on the affected side; this is usually interpreted as pointing to a destructive lesion. Yet these patients with no vestibular response whatever, and whose chief complaint was vertigo, were all cured when the vestibular nerve was cut, proving the inconsistency of the vestibular tests. If the symptoms of Ménière's disease were caused by a lesion which destroyed the labyrinth or the nerves, they would be self-limiting. But many of the author's patients had had attacks of vertigo for fifteen or twenty years, and only an irritative lesion could cause symptoms over such a long period. A history of "whirling of surrounding objects" during an attack is most important in differentiating between the dizziness of Ménière's disease and that resulting from other conditions. The similarity of the symptoms of Ménière's disease to those produced by artificial stimulation of the labyrinth is evidence that this disease is due to a lesion in the static labyrinth, and not in the nerve or central vestibular pathways. If the symptoms of Ménière's disease were the result of a disordered metabolism of fluids (Mygind) or of sodium (Furstenberg), it is difficult to understand why such a disorder should affect one side only, and why division of one vestibular nerve cures patients whose dietary habits remain unchanged. Nevertheless, it is doubtful whether the metabolic theory can be dismissed so easily. If the symptoms of an irritative lesion of the membranous labyrinth are removed by cutting the vestibular nerve, the same must apply when the vertigo is due to oedema of the membranous labyrinth, or to an irritation of the nerve endings by excessive sodium ions. And the difficulty of accepting a unilateral irritation is the same whatever explanation of the pathology is put forward. Dr. Crowe firmly believes that the vertigo and deafness of Ménière's disease are always caused by stimulation of, and degenerative changes in, the peripheral auditory and vestibular structures, most likely the result of pressure or chemical changes in the endolymph. It is impossible to have vertigo after section of the vestibular nerve, and the cure of the disease is due to this fact.

[1] *Medicine*, 1938, **17**, 1.

CANNABIS INDICA

The pharmacology of *Cannabis indica* has been providing copy for the daily press in various ways. Since 1937 a great craze for hemp-smoking has spread up across the United States from Mexico. Peddlers have sold it to young people under the name of "marihuana" or "Mary Warner," or it has been made up into cigarettes, which are known as "reefers." Numerous crimes have been attributed to marihuana, and special legislation has been introduced against its distribution. Nothing comparable with this has happened in this country, but cases do occur. The hemp-seeds which are sold for feeding birds will sometimes germinate and grow in England, and not long ago a young man intoxicated himself with hemp grown in an English garden. Marihuana was blamed for the crimes of one of the soldiers involved in the recent shooting affray at Barking. Various different kinds of hemp were recognized at one time, but it is now thought that there is only one species, and botanists do not distinguish between *Cannabis indica* and *Cannabis sativa*. The plant is an annual herb, which is usually three to six feet high, but may grow to eighteen feet. It is closely related to the hop. Its original home was Central Asia, but it has been spread by man all over the world. It is grown as a crop

in China, Russia, Southern Europe, the United States, and Chile for the sake of its inner bark, or bast, which is used for making twine, harness thread, carpet warp, canvas, sails, and rope. The drug is prepared from a resin which is found on the flowers and stems, and from the leaves, and may be chewed, swallowed, or smoked. It was at one time included in the *Pharmacopoeia* as a hypnotic, but was found to be too variable in activity. The active principle has not been isolated, and the only method of determining whether a given sample is active or not is to test it on man or on animals. In some ways its action is like that of alcohol: it diminishes self-control and gives a feeling of exaltation and increased power. It has a curious action on the sense of time, like that of the New Accelerator of H. G. Wells, though less potent, so that minutes seem like hours and hours seem like days. Dance-band musicians find that when they have taken hemp the beat seems to come quite slowly to them, so that they have time to interpolate improvised notes with comparative ease. The results of a careful investigation of the effects of hemp on a group of patients in the Pretoria Mental Hospital[1] have recently been published. It was found that the effects could be classified into several stages of intoxication. In the first stage the patients were mentally dull; in the second, silly and fatuous; in the third, emotionally unstable. After this some patients became irritable and pugnacious, while others became depressed. The final stage was always one of deep sleep. There were surprisingly few after-effects. Addicts often show moral and mental degeneration, but it is difficult to say whether this is the cause or the effect of the addiction. Murders, suicides, and sexual assaults have frequently been attributed to hemp, and the word "assassin," which was first applied to a Muslim sect of the time of Saladin, is said to be derived from the fact that this sect was in the habit of committing secret murders under the influence of hemp, which is known as "hashish" in Arabic. In a recent paper, which deals with the wave of hemp addiction in America, Yawger[2] throws doubt on the theory that hemp leads to crime. A number of sensational cases have been reported, but none of them has been fully analysed, and Yawger doubts whether *Cannabis indica* is as potent an instigator of crimes as alcohol.

AQUATIC LIFE

A pamphlet belonging to the Economic Series of the Natural History Museum has been prepared by Dr. Anna Hastings for the better guidance of visitors to the extended exhibit at the Museum on the subject of water biology.[3] Among the forms of plant life which enter waterworks the green algae, the blue-green algae, and the diatoms are described and species illustrated. Among the numerous animal invaders reference is made to the sponges, rotifera, and molluscs, the planarian and oligochaete worms, the crustaceans including Daphnia, together with midge larvae, sticklebacks, and eels. Algae and diatoms are abundant in rivers and crustaceans few. In reservoirs, on the other hand, all are strongly represented. Active plant proliferation in reservoirs is in general preferred to animal, yet the animal type may sometimes serve to check superabundance of the plant, as was shown lately when the removal of mussels from the walls of a reservoir was promptly followed by the appearance of excessive swarms of algae. These forms indeed may on occasion multiply beyond all reason. In 1931 Oscillatoria caused the water in a London reservoir to resemble cocoa and stained the filters so royal a purple that the whole system had to be put out of commission for several months. Normally, however, the algae render excellent service in waterworks by forming the biological film on the surface of sand filters which strain pathogenic and other bacteria out of the water, though sticklebacks and midge larvae may at times mar the result by boring through the film and so causing unpurified water to pass into supply. In connexion with the present-day use of traces of copper to control algal growth Dr. Hastings cites the view of a Sanskrit author, who wrote in 800 B.C. to the effect that "it is good to keep water in copper vessels." In support of storage as a means of purification she recalls that Professor P. Frankland said: "The leap over Niagara leaves bacteria unscathed, but they quickly disappear in the still waters of Lake Ontario." This compendious and pleasant brochure presents well-chosen information which will be of interest to both purveyors and consumers of drinking water.

PAROXYSMAL HYPERTENSION

Although one of the rarest diseases known, the paroxysmal arterial hypertension associated with benign tumours of chromaffin tissue continues to excite interest, probably because it has the distinction of being the only condition in which there is fairly precise evidence as to the causation of raised blood pressure. The condition was first described by L'Abbé, Tinel, and Doumer in 1922,[1] and eighteen cases in all have since been reported; these are the subject of a recent review by Howard and Barker.[2] The malady is characterized by attacks in which the arterial pressure rises to a level which may exceed 300 mm. Hg for the systolic and 240 mm. Hg for the diastolic readings. Between the attacks the blood pressure is usually normal in the early stages but later tends to be raised. The attacks themselves are often of a dramatic nature. They begin with palpitations, paraesthesiae in the arms, intense headache, or severe pain across the chest. The skin becomes blanched or presents an ashen cyanosis; the patient looks anxious or gravely ill. Intense constricting pain in the chest or epigastrium is common, and also severe headache. The attack usually lasts for an hour or two and leaves the patient severely prostrated. Death occurred from acute pulmonary oedema in five patients during an attack. In every instance benign tumours of chromaffin tissue,

[1] *S. Afr. med. J.*, 1938, **12**, 85.
[2] *Amer. J. med. Sci.*, 1938, **195**, 351.
[3] *Biology of Water Supply*. By Anna B. Hastings, M.A., Ph.D. London: British Museum (Natural History). (1s.)

[1] *Bull. Mém. Soc. méd. Hôp. Paris*, 1922, **46**, 982.
[2] *Johns Hopk. Hosp. Bull.*, 1937, **61**, 371.

so-called phaeochromocytomata, were found in the abdomen at operation or at necropsy. In most cases the tumour was situated in the medulla of the suprarenal gland, but in some it was distinct and in one case lay lateral and superior to the hepatic flexure of the colon. The size of the tumour varied from that of a cherry to that of a grapefruit. It is certain that in this disease the characteristic attacks result directly from the presence of the chromaffin tumour, for in nine cases in which the tumour was successfully removed at operation the attacks abruptly ceased. Since chromaffin tissue is the tissue which secretes adrenaline, it is natural to ascribe the attacks to the release of large quantities of this substance from the tumours. The behaviour during the paroxysms is not inconsistent with what we know of its action, but there are phenomena, such as the intense thoracic and abdominal pain and acute pulmonary oedema, which have never been produced in man by injection of adrenaline. It is, however, probable that the amount released from the tumours during the paroxysms is far in excess of the dose which even the boldest experimenter has yet dared to inject into his human subject. In this connexion it is of interest to note that the adrenaline content of the tumours has been estimated in five cases; in one it was within the normal range at 6.7 mg., but in four others the amounts were enormous, being 240, 275, 285, and 300 mg. respectively.

VITAMIN K

When chicks are fed on a diet deficient in certain fat-soluble compounds but adequate in respect to vitamins A, B_1, B_2, C, and D, and in total fat and cholesterol, they develop internal, subcutaneous, and intramuscular haemorrhages. This bleeding is associated with and apparently due to a fall in the amount of prothrombin in the blood. It can be cured by administering a substance found in the unsaponifiable non-sterol fraction of hog-liver fat and in alfalfa. This substance is named provisionally vitamin K by Dam and his co-workers.[1 2 3 4 5] Dogs which have a biliary fistula suffer from a shortage of prothrombin. Since bile acids are necessary for the absorption of fats and sterols from the intestine, it may be that this shortage of prothrombin is due to the non-absorption of the fat-soluble compound, vitamin K. This factor cannot, however, counteract the haemorrhagic tendency in animals fed on spoiled sweet clover hay, which Roderick[6 7] and Quick[8 9] have shown to be apparently dependent on a deficiency of prothrombin. Vitamin K is found in hog-liver oil, cabbage, spinach, tomatoes, and alfalfa. It is not found in cod-liver oil or in wheat-germ oil. It is not easily prepared from these substances in a state of sufficient concentration for therapeutic use, but fish meal freed from fatty material by extraction with ether and allowed to putrefy forms a good source of this factor, which can be extracted from it by petroleum ether. The yield of oily extract is about 1 c.cm. per lb. of fish meal. The activity of the product was demonstrable on chicks when quantities of 10 mg. were added to each kilogramme of food. Almquist[10 11 12] prepared a crystalline distilled product with protective activity when given as 2 to 4 mg. per kilogramme of food. The material contained no nitrogen, phosphorus, or sulphur. Its molecule contained an aromatic nucleus but not a sterol ring. Almquist found it to be alkali-labile but fairly heat-stable. Apparently it is optically inactive and has a molecular weight of about 600. Ultra-violet light and absorption materials such as aluminium oxide and magnesium oxide destroy its activity. The determination of vitamin K in foodstuffs must be made biologically. Chicks are fed on a vitamin-K-deficient diet for three weeks. Blood samples are taken and the plasma is diluted with Ringer's solution and caused to coagulate by adding enough of a clotting agent to make the clotting time normal. The substance whose potency is to be determined is then given to the chicks for several days and blood samples are again tested for clotting time. Clinical trials have been made of preparations of vitamin K whose potency had been determined by experiments on chicks. The doses used by Butt, Snell, and Osterberg[13] were 200 mg. of a preparation of which 23 mg. should be sufficient for a human adult as judged by a comparison of body-weights and food intake of human adults and chicks. Human bile or doses of bile salts (1,000 to 4,000 mg. of "bilron Lilly") were given with the vitamin K extract, the bile being given (in pineapple juice) by mouth or through a tube directly into the stomach or duodenum. Eighteen patients who had obstructive jaundice have been so treated, several as a prophylactic measure. Where the prothrombin time was already high a rapid decrease was obtained by the treatment. Vitamin K given alone to a patient who was not taking food by the mouth was ineffective, but when bile and vitamin K were given together there was a fall in the prothrombin time within twenty-four hours. Bile alone has frequently been effective in controlling bleeding in jaundiced patients who still eat normally. It is concluded that a normal diet contains vitamin K; or this factor may be formed by the action of putrefactive intestinal flora on the food. By the aid of the bile the vitamin K is absorbed. There is, however, no information yet as to how the vitamin affects the prothrombin content of the blood or the activity of the prothrombin in the phenomenon of clotting.

The next session of the General Medical Council will open on Tuesday, May 24, at 2 p.m., when the President, Sir Norman Walker, M.D., will take the chair and deliver an address. The Council will continue to sit from day to day until its business is concluded.

[1] *Nature*, 1934, **133**, 909.
[2] Ibid., 1935, **135**, 652.
[3] *Biochem. J.*, 1935, **29**, 1273.
[4] Ibid., 1937, **31**, 22.
[5] Ibid., 1936, **30**, 1075.
[6] *J. Amer. vet. med. Ass.*, 1929, **74**, 314.
[7] *Amer. J. Physiol.*, 1931, **96**, 413.
[8] *Amer. J. med. Sci.*, 1935, **190**, 501.
[9] *Amer. J. Physiol.*, 1937, **118**, 260.
[10] *Pltr. Sci.*, 1937, **16**, 166.
[11] *J. biol. Chem.*, 1937, **120**, 635.
[12] Ibid., 1935, **111**, 105.
[13] *Proc. Mayo Clin.*, 1938, **13**, 74.

SURGICAL PROCEDURES IN GENERAL PRACTICE

This is one of a series of articles contributed by invitation

TREATMENT OF OTITIS MEDIA

BY

MYLES FORMBY, F.R.C.S.

Chronic Catarrhal Otitis Media

This is an insidious sclerosis of the middle ear, often referred to as dry catarrh, causing deafness of varying degree which is almost always progressive. Frequently the ear condition is associated with definite pathological changes in the upper respiratory passages, but in some instances no such changes can be discovered. In other cases the ear affection occurs some months or years after an acute otitis media.

Starting at any age, there is a history of increasing deafness in one or both ears, usually tinnitus, and frequently a "blocked feeling" in the affected ear. The variations from the normal seen on inspection of the drums over a series of cases are numerous, but in any one patient little alteration may be visible. Unfortunately the condition of the membrana tympani has no direct relation to the degree of deafness. The most constant alteration in the drumhead is an increase of its normal concavity, usually called retraction. The cone of light is distorted, the long process of the malleus is drawn upwards and backwards, and the short process projects conspicuously into the meatus. The outer surface of the drum is dull instead of shiny, whiter in colour, and irregular in texture. In some cases this latter change is due to patchy thickening of the tissues of the drum, and in others there are areas of atrophy. Viewed with a Siegle's speculum these irregularities are more evident, and it will be found that the mobility of the drum is altered as a whole and often is not uniform over its extent. General retraction produces a lax and very mobile drum; atrophic areas move freely while the remainder is stationary. Not infrequently adhesions form between the drum and the inner tympanic wall, and in these cases portions of the membrane are fixed and slight variations of air pressure produce no movement.

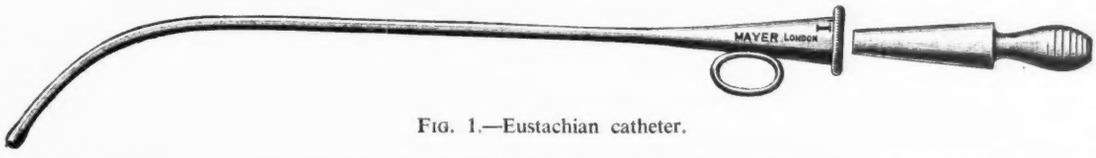


FIG. 1.—Eustachian catheter.

FIG. 2.—Auscultation tube.

PREVENTIVE MEASURES

Every case of chronic catarrhal otitis media must be thoroughly investigated with a view to determining the aetiology and giving treatment likely to prevent rapid increase of the deafness. Infection of the nasal accessory sinuses, teeth, tonsils, and adenoids should be eradicated, and deformities of the nose interfering with the normal airway corrected. While gross abnormalities requiring surgical intervention will often be present, many cases will be met with in which no abnormality is evident. In these the prognosis is bad, but the patient's general health should be maintained at the highest possible level and every effort be made to safeguard him against catarrhal infections of the nose and throat. The patency of the Eustachian tubes is of the utmost importance, and obstruction of them leads to a rapid loss of hearing and to changes in the middle ear which soon become permanent. The condition of the Eustachian tubes is ascertained by inflation with a catheter or by Valsalva's method. The latter is a simple procedure, and should be tried first. Viewing the drumhead through a Siegle's speculum, instruct the patient to close the anterior nares by pinching the nose between the thumb and first finger, and then to swallow. In the absence of Eustachian obstruction the drum will be seen to move. The patient is usually conscious of a "click" in the ear when there is free movement of the tympanic membrane.

FIG. 3.—Politzer bag.

EUSTACHIAN CATHETERIZATION

This is a means of determining the degree of freedom with which air can enter the middle ear via the Eustachian tube in cases where Valsalva's test is negative or doubtful and as a method of treatment for Eustachian obstruction. The requirements are a local anaesthetic (a solution containing 5 per cent. cocaine hydrochloride and 1 per cent. ephedrine), a nasal atomizer, a malleable cotton-wool applicator, cotton-wool, a Eustachian catheter, a Politzer bag, and an auscultation tube.

First spray the nose with some of the local anaesthetic mixture in the atomizer. This makes the subsequent manipulations less painful, and facilitates the passage of the catheter by shrinking the nasal mucosa. After four

or five minutes paint the orifice of the Eustachian tube and adjacent area of the lateral wall of the nasopharynx with more of the local anaesthetic. A brush is made for this purpose by twisting a small piece of cotton-wool firmly on one end of the applicator and bending the latter into a shape resembling a Eustachian catheter. A six-inch length of thin copper wire flattened at one end to hold the wool makes an excellent applicator. Applied in this manner the anaesthetic diminishes sensibility of the nose and nasopharynx still more, and at the same time, by its local vasoconstrictor effect, tends to open the orifice of the Eustachian tube.

Choose a catheter of suitable size—Nos. 2 and 3 are the most serviceable; make certain that its lumen is clear, by a preliminary blowing through with the Politzer bag, and that the attachment on the latter fits the catheter easily and securely; sterilize, and introduce. The introduction is made by gently pushing the catheter along the inferior meatus of the nose, the distal end being in contact with the floor until it glides over the upper surface of the soft palate and the convexity of the curve touches the posterior wall of the nasopharynx. The point is then rotated outwards into a horizontal position, where it meets the lateral wall immediately posterior to the Eustachian cushion. Keeping the proximal part of the catheter on the floor of the nose, withdraw it slowly, and the point will be felt to pass over the Eustachian cushion. In this position rotate the point of the catheter upwards and outwards, and it will come in contact with the orifice of the tube. The amount of curve on the catheter has to be adjusted to the width of the nasopharynx. If, after touching the posterior wall of the nasopharynx, the catheter cannot be rotated into a horizontal position, the curve is too large and must be lessened. If, on the other hand, the lateral wall cannot be felt, the curve is too short. Having placed the catheter in position—a manipulation that must be performed with the utmost gentleness—steady it with the thumb and index finger of the left hand, resting the remaining fingers on the patient's nose. One end of the auscultation tube is placed in the operator's ear, and the other the patient holds firmly in his ear on the side being inflated. Instruct the patient to breathe quietly through the mouth, attach the Politzer bag to the catheter, and gently blow. If the Eustachian tube is patent air will be heard to enter the tube with each inflation, and the loudness and pitch will vary with the diameter of the tube and the force with which the air is blown in. When obstruction is complete no air entry is audible, and a blockage removed by inflation is heard as a sudden "pop," which usually causes the patient to jump. In most cases in which the lumen of the tube is unobstructed the patient is conscious of the pressure of air on the inner surface of the drum. Complete obstruction, unrelieved by inflation, is treated by the passage of bougies.

The above method of politzerization should be employed to relieve Eustachian obstruction that persists after an acute coryza, and in the treatment of those cases of chronic catarrhal otitis media in which the lumen of the tube is unduly narrow and is occluded from time to time. The frequency with which the process has to be repeated depends upon the response. This is estimated from the state of the hearing and the readiness with which an obstructed tube can be relieved after the lapse of one or more weeks. Between treatments many cases derive much benefit from an inhalation of menthol each night.

In spite of every attention there is often a steady increase in deafness to a degree that necessitates the employment of a suitable aid to hearing or instruction in lip-reading.

Chronic Suppurative Otitis Media

In this condition, for weeks, months, or years there is a continuous or intermittent discharge of pus from the middle ear unassociated with pain or pyrexia, with a perforation of the tympanic membrane and some degree of deafness. The initial infection is a specific acute suppurative otitis media which for some reason has not resolved. A consideration of the factors likely to lead to chronicity is the first step towards determining the correct line of treatment. These factors may be classified under three main headings:

1. *Mastoiditis.*—Inadequate drainage in acute suppurative otitis media leads to adhesions in the middle ear, persistence of infection, and not infrequently its spread to the mastoid antrum and cells. The so-called chronic suppurative otitis media is then associated with a chronic mastoiditis, and must be treated as such. Mastoid infection is to be suspected as the cause of the chronic otorrhoea in cases where the perforation is in the attic region, where polypi persistently re-form in spite of cholesteatoma removal and cleansing, and when flakes of cholesteatoma are present in the discharge. An acute suppurative otitis media continuing to discharge for more than four to six weeks in the absence of an obvious cause should be drained by mastoidectomy.

2. *Poor Hygiene.*—This leads to chronic suppuration through mixed infection and as a result of a lack of resistance on the part of the patient. Proper cleansing, good food, and improved environment will terminate the condition in many suppurating ears that are apparently becoming chronic.

3. *Infection via the Eustachian Tube.*—This is the pathway by which the acute infection reaches the middle ear, and not infrequently it is the path by which the suppurative process is kept alight from a focus of infection adjacent to the nasopharynx. Strictly speaking, no case of otorrhoea should be labelled chronic suppurative otitis media while gross infection is present in the teeth, tonsils, adenoids, or nasal accessory sinuses. The middle ear is reinfected in a manner comparable to that occurring in mastoiditis, and it is the source of the infection that must first be treated.

Having excluded cases that can be classified under the above three headings, there remain those in which suppuration appears to be limited to the middle-ear cleft, and these may be designated uncomplicated chronic suppurative otitis media. No one method of treatment is satisfactory for every case: the most suitable therapeutic measure is indicated by certain individual characteristics.

Large Perforations

Where the whole or a large portion of the tympanic membrane has been destroyed, the mucous membrane, normally moist, which lines the middle ear is exposed, and is readily irritated by foreign particles gaining access via the external meatus. The natural response is an excess of mucus, which is discharged into the outer ear. If the Eustachian tube is patent an acute coryza will similarly produce a profuse discharge. The correct treatment for such an ear is to provide adequate protection, and a convenient method is to keep the external auditory meatus well greased with a mild antiseptic ointment—for example, ung. hydrarg. oxid. flav. 1 per cent. The patient must be warned against allowing water to enter the outer ear, and should be persuaded to co-operate in constantly affording the necessary protection. The hearing in these cases is

PETER McEWAN: CLINICAL PROBLEMS OF THYROTOXICOSIS

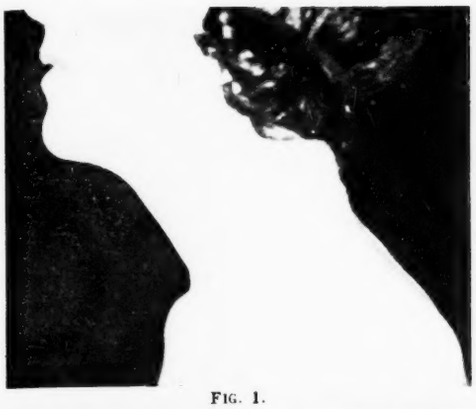


FIG. 1.

FIG. 2.—Case IV. Photographs show absence of goitre in a case of well-marked thyrotoxicosis (B.M.R. + 54 per cent.).

FIG. 3.—Case V. "Localized myxoedema" occurring before and increasing slightly after an otherwise complete cure of thyrotoxicosis by subtotal thyroidectomy.

R. G. COOKE: AN ANALYSIS OF 350 CASES OF ABORTION

FIG. 1.—A piece of slippery elm bark.

FIG. 2.—Showing increase in size of a small piece of bark on soaking in water.

FIG. 3.—Stone from the bladder with nucleus of slippery elm.

SIR ARTHUR J. HALL, GRAHAM S. SIMPSON, AND J. L. A. GROUT: LOBAR PNEUMONIA; SUBPHRENIC ABSCESS; DUODENAL FISTULA: RECOVERY

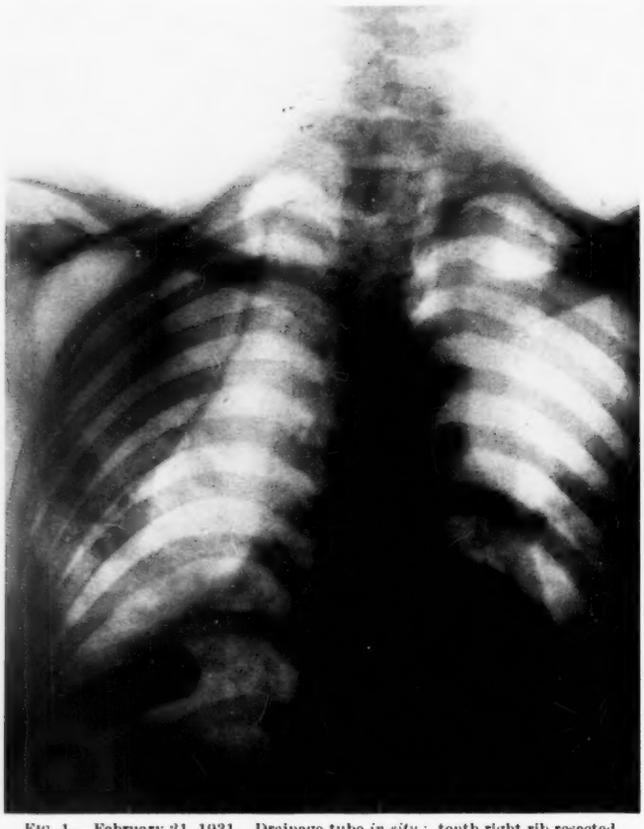


FIG. 1.—February 21, 1931. Drainage tube *in situ*; tenth right rib resected. Shadow in upper and outer right chest; curved marginal linear shadow from third rib to seventh space. Right apical empyema. Small collection of fluid at right costo-phrenic angle.

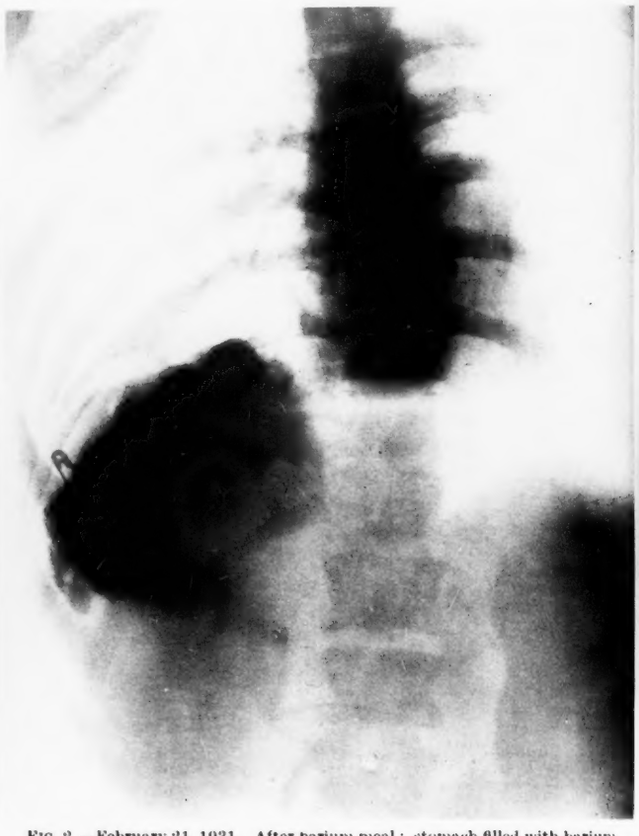


FIG. 2.—February 21, 1931. After barium meal; stomach filled with barium. Much barium seen in and around drainage tube, also small amounts between this and region of duodenum.

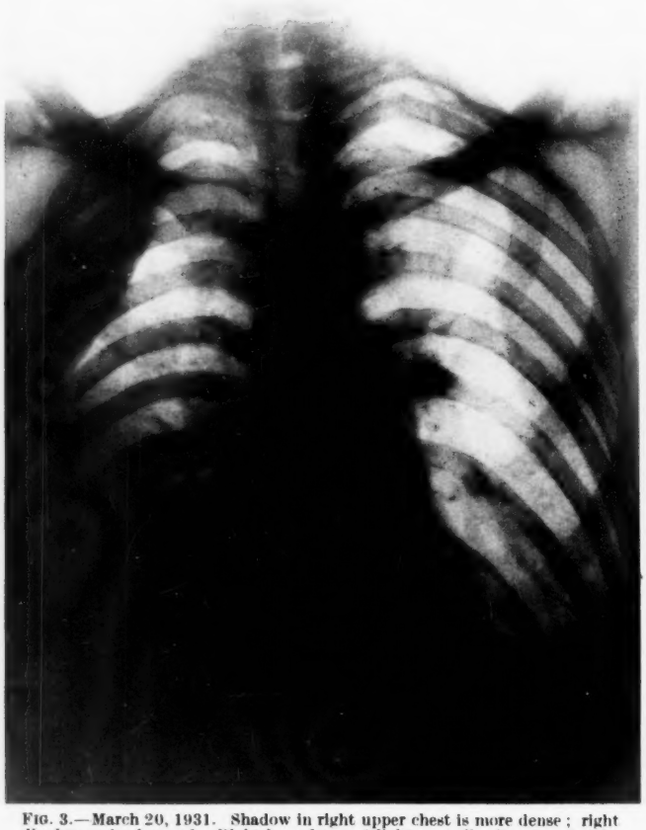


FIG. 3.—March 20, 1931. Shadow in right upper chest is more dense; right diaphragm is obscured. Right lung does not light up well. Density at right base possibly due to thickened pleura.

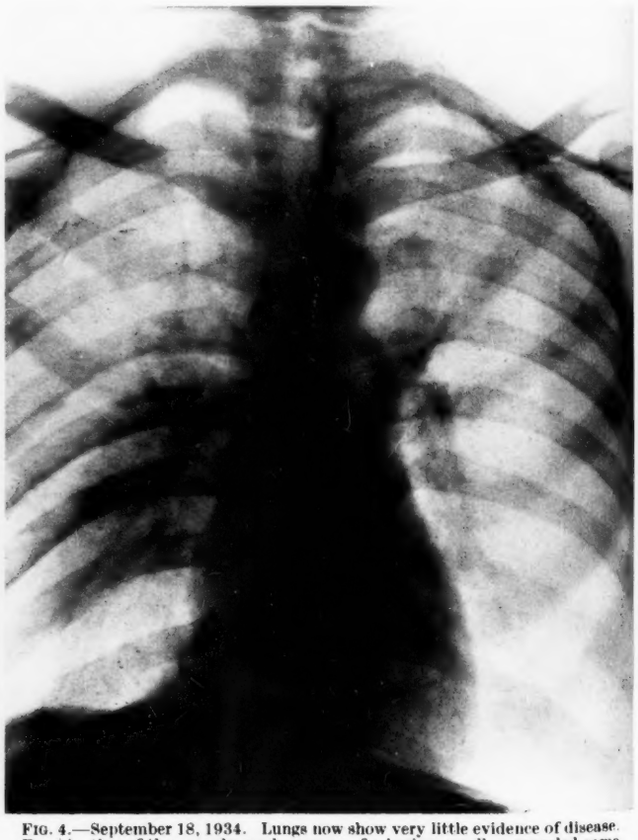


FIG. 4.—September 18, 1934. Lungs now show very little evidence of disease. Examination of the oesophagus by means of a barium swallow revealed some displacement of the oesophagus to the right.

R. CAMPBELL BEGG: HETERO-LATERAL ECTOPIA OF THE RIGHT KIDNEY

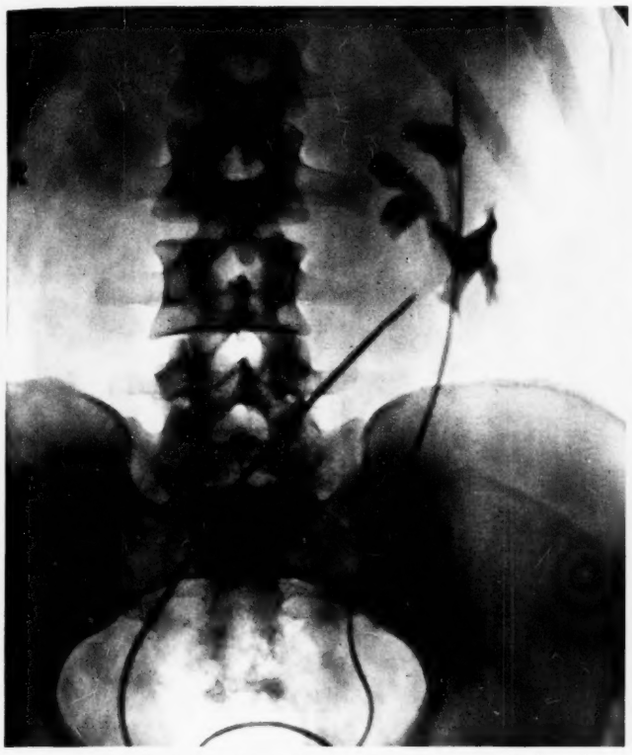


FIG. 1.—Pyelogram of the right or lower kidney. An opaque catheter lies in the left ureter, but the pelvis has not been injected.

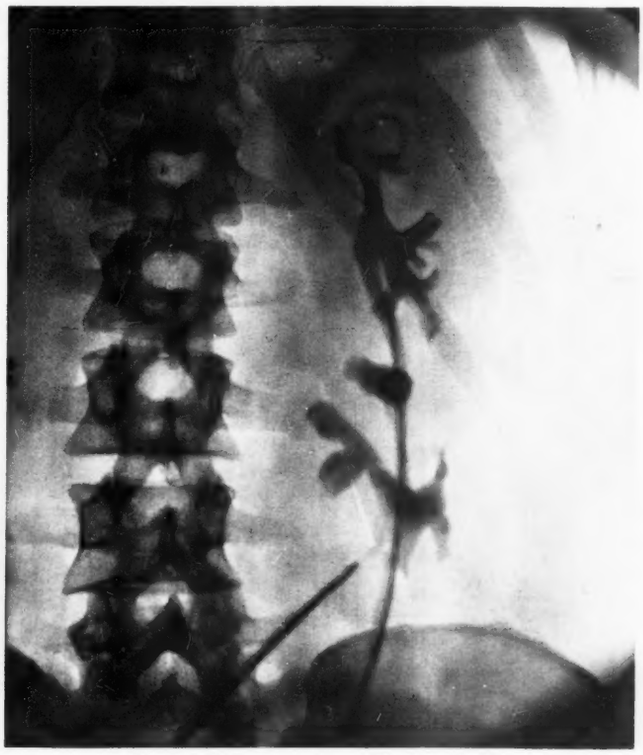


FIG. 2.—Retrograde pyelograms of both kidneys.

T. DE LEHOCZKY AND A. ORBÁN: HYPEROSTOSIS FRONTALIS INTERNA

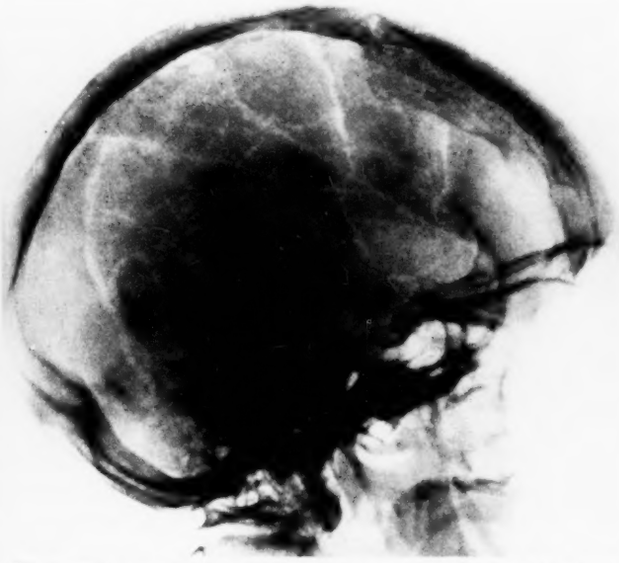


FIG. 1.—Skiagram of skull taken in 1934, showing conspicuous thickening of cranial bones, with senile atrophy of the mandible.

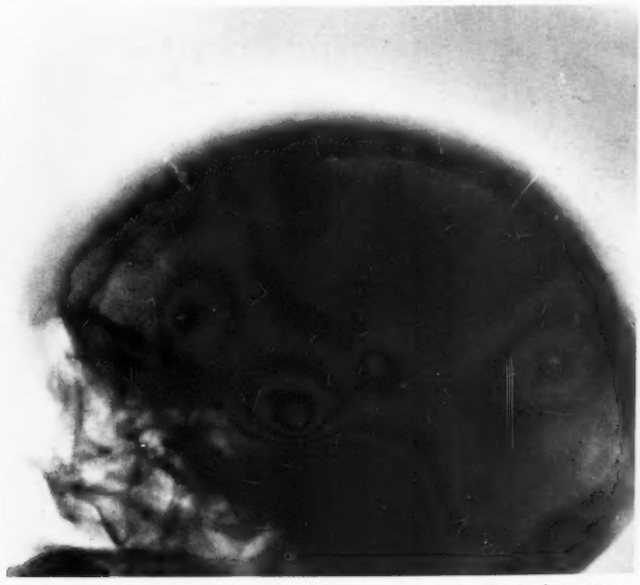


FIG. 2.—Skiagram taken in 1936. Same changes as in Fig. 1, but more pronounced, especially in the frontal bone above the sinus. The frontal portion of the falx cerebri is calcified.

FIG. 1.—Case I, taken in full expiration.

FIG. 2.—Case I, taken in full inspiration.

FIG. 3.—Case II, taken in full expiration.

FIG. 4.—Case II, taken in full inspiration.

often quite good, and measures employed to "dry up" the middle ear destroy the mucous membrane and greatly increase the deafness.

Small Perforations

A tiny hole in the drum hinders drainage and prevents any treatment being applied directly to the middle ear. In dealing with the condition, therefore, first enlarge the perforation with a myringotome: this can be done under local anaesthesia. Six to eight drops of Bonnain's fluid (equal parts of phenol, menthol, and cocaine hydrochloride) introduced into the meatus after it has been thoroughly cleansed will produce complete anaesthesia in from ten to fifteen minutes. Subsequent treatment consists in daily cleansing with peroxide drops, followed by syringing with boric lotion and the application of spirit drops. If simple cleansing fails to terminate the suppurative condition zinc ionization will probably do so.

Otitis Externa

This has been dealt with in a separate article. (See April 30, p. 958.)

Granulations and Polypi

When present these must be removed. Small collections of granulation tissue are best destroyed by touching the surface with solid silver nitrate, having first anaesthetized the area by applying 10 per cent. cocaine hydrochloride for ten minutes. A convenient way of applying the silver nitrate is by fusing a small bead on to one end of a copper wire probe. Larger collections should be removed with a small scoop or aural curette after anaesthetizing with Bonnain's fluid. Apply a few drops of adrenaline, 1 in 1,000, to stop the bleeding, then cauterize the area with silver nitrate.

Polypi

The main mass is removed with an aural snare. If the meatus is not obstructed to a degree that prevents the introduction of a local anaesthetic Bonnain's fluid will suffice, but many cases will require a general anaesthetic. The snare is introduced over the polypus and slid down to its base, which is then cut through. On no account must a polypus be dragged away from its attachment, which may be to the inner tympanic wall. Bleeding is controlled by adrenaline and packing. Any pieces of the polypus remaining after the use of the snare are removed with a curette and by cauterization. After-treatment entails regular cleansing and frequent inspection, so that any recurrence can be immediately dealt with by the further application of caustic.

Marginal Perforations

These and the presence of polypi and granulations usually indicate infection of bone. The carious area is frequently quite small, and can often be eradicated through the meatus. As mentioned above, the base of a polypus should be scraped with a curette or be cauterized. Marginal perforations often continue to discharge because of the existence of caries in the tympanic ring, where it forms one edge of the perforation. Removal of the diseased area with a small sharp scoop, and subsequent cleansing, will usually terminate the otorrhoea.

On the occasion of the appearance of the hundredth volume of the *Klinische Monatsblätter für Augenheilkunde* the publisher, Ferdinand Enke of Stuttgart, has founded a Theodor Axenfeld Prize for the best paper published in that journal during the past two years.

INTERFERENCE WITH WIRELESS RECEPTION BY ELECTRO-MEDICAL APPARATUS

At the suggestion of the Postmaster-General the Minister of Health has issued a circular letter to local authorities (No. 1695), enclosing a memorandum on the prevention of interference with radio reception from certain types of electro-medical apparatus. A leading article on this subject appeared in the *British Medical Journal* of April 9, 1938, p. 786. The memorandum was prepared by the Radio Branch of the General Post Office, and its purport has already been brought to the notice of the principal voluntary hospitals in this country, through the British Hospitals Association, in the issue of *The Hospital* for September, 1937. The memorandum is primarily concerned with certain types of diathermy installations working on medium waves, short waves, and ultra-short waves.

Electrical Screening of Rooms

Radio receivers situated at up to one mile or more from the electro-medical apparatus may be affected, so that a single apparatus may affect a very large number of receivers. The radio services which may be affected are not only the B.B.C. broadcast and television transmissions on long, medium, or ultra-short waves, but also Government services, Air Force, civil aircraft, police, shipping, and other commercial services, in some of which the safety of life on land, at sea, and in the air may be involved.

The interference may reach a radio receiver by two means—either by conduction from the source along the electric supply mains, from which it is eventually radiated to the aerial, or by radiation from the source directly to the radio receiving aerial. The former method of propagation is known as "mains-borne," the latter as "direct radiation." Mains-borne interference can be suppressed by connecting in the mains supply to the diathermy apparatus a suitable filter consisting of condensers and/or radio frequency inductors ("chokes"). Directly radiated interference can only be suppressed by enclosing in an electrical screen or Faraday cage not only the apparatus but also the patient and the operator. This is not practicable in the case of the mobile ward unit, but may be applied to the considerably more common case in which the bulk of the treatment is given in one room set apart for the purpose. This latter case is the one which in practice gives rise to the large majority of complaints of interference with radio reception.

It is obviously undesirable to enclose the apparatus, patient, and operator in a closely fitting screen, and the methods of screening which have been developed by the G.P.O. Radio Branch rely on fitting the screening material to the surfaces which enclose the room in which treatment is given. Two methods in particular have been developed, one primarily for dealing with an existing room, the other for application to a building which is in course of erection. In the former case metallized paper is applied to the walls, doors, and ceiling of the room above the plaster, the floor being covered with either heavy-gauge metallized paper or else with quarter-inch wire netting. The floor screening material is covered by linoleum or other floor covering. The recommended type of metallized paper consists of aluminium foil (not sprayed aluminium or aluminium paint) supported on a paper backing. The windows are covered with wire netting.

It is desirable that provision should be made, in any new hospitals or extensions to existing hospital buildings in which apparatus of this kind is likely to be used, for the inclusion of screened rooms of the type outlined in the memorandum. The Radio Branch of the General Post Office is prepared to advise on any problems arising in the provision of screened rooms for future installations, as well as on the prevention of interference which may be found to be caused by existing plant.

Pending further consideration of the important question discussed in our leading article regarding the suitability of certain wave-bands which might be reserved for the users of electro-medical apparatus, the Secretary of the British Medical Association would like to have as much information as possible from members possessing expert knowledge.

CANCER OF THE CERVIX UTERI

GROUPING OF CLINICAL STAGES

In the autumn of last year[1] we reviewed a pamphlet issued by the League of Nations Health Organization on the results of radiotherapy in cancer of the uterine cervix. This has now been followed by the publication of an *Atlas illustrating the Division of Cancer of the Uterine Cervix into Four Stages*,[2] which has been prepared by Dr. J. Heyman and Dr. M. Strandquist of Stockholm. It consists of a series of thirty-eight diagrams in which the extent of neoplastic spread is clearly indicated, while facing each page of diagrams is the descriptive text in English, French, and German. The compilers have taken special care to ensure an exact correspondence of meaning in the terms used in the three languages, a circumstance which greatly adds to the value of the book.

Revised Definitions

In view of the experience gained since the four grades or stages were first defined in 1929, it has been found desirable to make some modifications in the various definitions, and these are included in the present work. Under the old rules of classification it often occurred that there were marked discrepancies in the reports from different centres owing to lack of agreement in the exact interpretation of the directions regarding grading.

The main causes of difficulty have arisen in differentiating between the second and third groups in those cases where the degree of parametric invasion was the deciding factor. In the definitions as originally given the extent of parametric invasion was based mainly upon the degree of uterine fixation. In the revised definitions the distinction between the second and third stages is based entirely on what can be ascertained by rectal and vaginal examination regarding the relationship between the growth and the pelvic wall. For this purpose the "pelvic wall" is understood to include the pelvic bone, muscles, fasciae, blood vessels, and lymphatic glands—that is, the pelvic wall as appreciated by the finger of the examiner. Considerable simplification has been made in those definitions where the grouping depends upon the vaginal extent of the growth. The definitions of 1929 were drawn up on an anatomical basis, and, as regards Stage IV, in order to counteract a generally accepted although erroneous idea that all "hopeless" cases should be referred to that stage. It often happens that cases which anatomically belong to Stage III are nevertheless "hopeless" owing to the patient's general condition, and conversely a certain number of cases which under the 1929 definitions belong to Stage IV are not hopeless.

Accuracy and Uniformity of Grading

For these reasons it is suggested that Stage IV should consist only of those cases in which there is involvement of the bladder and rectum, or where extension outside the true pelvis has occurred. It is admitted that this revision of definitions will reduce the comparability between results obtained at the same clinic before and after 1938; but this is regarded as of minor importance in view of the greater accuracy and uniformity of grading, while the results obtained in different clinics for the same year will be strictly comparable. The allocation of any case to its proper grade should be governed by the conditions found on inspection, on bimanual examination—vaginal or rectal—and on cystoscopy when there is any question of the bladder being involved. In endeavouring to discriminate between an advanced example of a particular stage and an early example of a succeeding stage it should be a general rule to allot cases to the prognostically more favourable earlier stage, so as not to raise unduly the proportion of favourable results in the less advanced grades.

The revised definitions as given in the present *Atlas* are as follows:

Stage I.—The carcinoma is strictly limited to the cervix.

Stage II.—(*a*) The carcinoma infiltrates the parametrium on one or both sides, but has not invaded the pelvic wall.

(*b*) The carcinoma infiltrates the vagina but does not involve its lower third.

(*c*) Endocervical carcinoma which has spread to the corpus.

Stage III.—(*a*) The carcinomatous infiltration of the parametrium has invaded the pelvic wall on one or both sides. On rectal examination no cancer-free space is found between the tumour and the pelvic wall.

(*b*) The carcinoma involves the lower third of the vagina.

(*c*) Isolated carcinomatous metastases are palpable on the pelvic wall (irrespective of the extent of the primary cervical growth).

Stage IV.—(*a*) The carcinoma involves the bladder, as determined by cystoscopic examination or by the presence of a vesico-vaginal fistula.

(*b*) The carcinoma involves the rectum.

(*c*) The carcinoma has spread outside the true pelvis (below the vaginal inlet, above the pelvic brim, distant metastases).

General Rules to be Observed

1. When allocating a case to a stage nothing but facts revealed by examination should be taken into account.

2. The stage of each case should be decided at examination prior to treatment, and this classification should remain. The classification may be postponed quite exceptionally and the reasons stated.

3. When it is doubtful to which stage a given case is to be allocated the earlier stage should be chosen.

4. The fact that a single case presents two or more of the conditions which characterize a particular stage does not affect the grading.

The *Atlas* will be found of the greatest value in all clinics where research work is undertaken, and its small size adds to its convenience for reference. We are asked to state that institutions wishing to collaborate in the international standardization of reports should communicate with Dr. J. Heyman, Radiumhemmet, Stockholm, from whom all necessary information can be obtained. Copies of the *Atlas* are procurable from the Publications Service of the League of Nations, Geneva.

[1] *British Medical Journal*, October 16, 1937, p. 755. The original definitions of the four grades are reported in this annotation.

[2] *Atlas illustrating the Division of Cancer of the Uterine Cervix into Four Stages, according to the Anatomo-clinical Extent of the Growth.* League of Nations Health Organization: Inquiry into the Results of Radiotherapy in Cancer of the Uterus. (7s. 6d.)

At the annual meeting of the Milbank Memorial Fund, held in New York City on March 29, it was announced that nicotinic acid is now being artificially produced at so low a cost as to make it additionally useful in treating "the poor man's disease." In the United States of America nearly half a million people suffer from pellagra, of whom 3,500 die from the disease every year. It may be recalled that one of the pioneers to discover the cause of pellagra was Cesare Lombroso (1836–1909). An impetuous and versatile genius—at the age of 12 he published two small works on Roman archaeology—he is chiefly known as the founder of the science of criminal anthropology. Fifty years ago, in his book "L'Uomo di genio" (The Man of Genius), he advanced the theory that genius is essentially an epileptiform neurosis.

Reports of Societies

NON-MALIGNANT OESOPHAGEAL STENOSIS

At the meeting of the Section of Surgery of the Royal Society of Medicine on May 4 Professor GREY TURNER delivered his address from the chair, taking as his subject non-malignant stenosis of the oesophagus.

Professor Grey Turner said that the practical importance of simple stenosis of the oesophagus was undoubted, and during the last two or three years he had seen many examples of the condition. He had long been impressed with the difficulties in the management of some of these cases. In 1911 he saw a child, aged 3, who was constantly eating and regurgitating whatever was put before him. Dilatation was carried out through the oesophagoscope and afterwards by bougies, which the patient learned to pass; now, after twenty-five years, he remained well and with full swallowing capacity.

It had been traditional now for a long time to expect that these cases could be successfully dilated through the oesophagoscope and perhaps cured, but this method was not always successful, and was often attended with great risk.

A lad of 19, after dilatation of such a stricture, became very ill, and appeared to be dying of mediastinitis; an empyema also developed. He slowly recovered, though gastrostomy had had to be undertaken to save his life. Exploration of the oesophagus from the abdomen showed that the stricture extended much too far up for any plastic operation, and bougies could not be passed by the retrograde method. It seemed that a new oesophagus would have to be made, but he persevered with bougies by the mouth, although only the tiniest instrument could pass through the stricture in the first instance. The boy eventually passed the largest bougie, and now, four years later, he was perfectly well, although about once every two months he passed the bougie as a sort of insurance.

After describing two other similar cases, Professor Grey Turner went on to say that sometimes this method could not be employed. In one such case he had exposed the oesophagus from the abdomen and had carried out cardioplasty with complete success. Twelve years afterwards the patient, a boy, remained fit and well, and he had never had a bougie passed since the operation. The method of anastomosis was not often indicated, but he had employed it in seven cases, and in one especially, in which the operation was conducted through the chest, the result had been most satisfactory, though unfortunately the patient was killed two and a half years later in a motor-car accident. A necropsy showed the almost impossible condition of the stricture from the point of view of any other treatment, and the effectiveness of the anastomosis.

Aetiology

The causation of fibrous stricture was usually quite obvious; it generally resulted from the swallowing of corrosive fluids. Nevertheless, there were other causes, such as local and general infections, like typhoid and some of the other acute infective fevers. Though he had not seen the type of extreme destruction by digestion which Pringle and Teacher described, he had very often noticed milder destructive changes in the oesophagus, almost certainly due to regurgitation of very acid, or perhaps toxic, stomach contents in patients who had long been extremely ill. This condition must occur in many patients who recovered, and he believed that a lesion thus set up might occasionally lead to benign stenosis.

Brown Kelly of Glasgow had shown that a secondary fibrosing condition might start in association with some mild congenital defect. The diagnosis, not as to the cause but as to the actual condition present, was usually obvious, but it was necessary to realize that there were cases in which difficulty occurred. In this connexion he recalled a case which came under his observation before the diagnostic methods now employed were available. Owing to the extraordinary improvement after gastrostomy in this patient dilatation was carried out, and with some success; subsequent post-mortem examination showed a well-developed growth. Such a sequence of events might be thought well-nigh impossible in these days, but recent experience showed that there were still avenues of error.

Prevention of Stenosis

The prevention of stenosis in the presence of such conditions as were almost invariably followed by its development was important. Salzer advised the passage of instruments in the very early days, although the traditional view was that it was better to defer any such treatment until four or six weeks after the accident. He had himself seen a perforation of the oesophagus by a bougie on the twenty-sixth day after the swallowing of carbolic acid; he would hesitate to attempt any dilatation until the stage at which fibrosis had become well developed. As to the ultimate condition of patients who had suffered from cicatricial stenosis of the oesophagus, many—possibly the majority—might be permanently cured by persistent treatment, but it must be realized that there was probably a residue of cases in which the tendency to recurrence persisted for many years, and perhaps throughout life. One of his patients, who first showed signs of such a lesion when aged 3, had been treated with great success, and at 16 was able to swallow normal food. Of late years, however, she had neglected the regular use of the bougie, and now had some pain behind the sternum, and a skiagram showed that there was a well-defined hold-up at the lower end of the oesophagus. It was Trousseau, the French clinician, who said that a patient using the oesophageal bougie would die of the instrument sooner or later, and it must be recognized, of course, that there was danger in this treatment. Nevertheless, experience led him to conclude that the careful self-passage of bougies, blind though it might be, was certainly not attended with more danger than the rapid dilatation carried out through the oesophagoscope. It was undoubtedly a very dangerous practice to pass a blind bougie under an anaesthetic.

Other Methods of Treatment

Other methods were available of the value of which he was not unmindful. The swallowed string, usually associated with the name of Plummer, and so successfully employed by him, had a great field of usefulness, but there were many cases in which it would not avail and there were others in which the patient tolerated this method badly. In all difficult cases it ought to be tried before other measures were contemplated, or rather when other and simpler methods had been tried and had failed. He had personally not had any success with the retrograde passage of bougies through a gastrostomy, but others had had some success, and it was a method that at least could easily be tried. Cutting through the stricture with a string saw was a violation of surgical principles which made no appeal to him. His experience in oesophagectomy led him unhesitatingly to condemn attempts at excision of a simple stricture with end-to-end anastomosis.

In cases that had defeated the various methods mentioned there was always the possibility of making a new oesophagus, and to this end a vast amount of ingenuity had been exercised with an encouraging degree of success. The late Professor Zaaijer of Leyden had done much along these lines. A friend of his told him that he had seen no fewer than eleven patients in one hospital in Moscow all suffering from simple stricture of the oesophagus, the result of swallowing caustic fluids in suicidal

attempts; in each case the surgeon in charge was busy with the formation of a new oesophagus. Surely, one could scarcely imagine that such a wholesale resort to this procedure must be necessary, and he could not but feel that more and more effort should be exercised in an attempt to restore the natural path rather than to by-pass it by means of a surgical exploit of such magnitude with its attendant risks.

At the close of the address, which was illustrated with lantern slides, Mr. SAMPSON HANDLEY proposed a vote of thanks to Professor Grey Turner for a communication which had embodied an extraordinary number of interesting clinical facts. The President, he said, had won many triumphs in a field where the difficulties were enormous and where only great knowledge and great determination could bring successful results.

At a meeting of the Devon and Exeter Medico-Chirurgical Society on April 28, with Dr. ROBERT SCOTT, the president, in the chair, Dr. W. A. ROBB read a brief paper on the necropsies carried out in two cases of sudden death; death was due in one case to pleural shock and in the other to rupture of an aortic aneurysm. Dr. CHARLES SEWARD described a case of profound anaemia which seemed to be nutritional in origin.

Local News

ENGLAND AND WALES

Financial Position of Guy's

Two years ago Guy's Hospital made an appeal for half a million for rebuilding and essential re-equipment. So far about £200,000 has been received. This has enabled the dispensary to be reconstructed, a children's ward to be erected, the nurses' home to be enlarged, and the debt to be reduced by some £82,000. A new appeal is now being made for the balance of the half-million, and Lord Nuffield, the treasurer of the hospital, has offered to give £80,000 for a new nurses' home if this balance—actually £316,000—is subscribed by the public. This large sum is needed mainly for the purpose of rebuilding or replacing some of the eighteenth century parts of the hospital, the state of which has become perilous. Guy's is one of the most picturesque of the London hospitals, but the age of the building in parts is very apparent. What is now the surgical block is really the old hospital building, not much altered since its erection in 1725. Rebuilding has been deferred again and again, but the time has come when the question cannot longer be shelved. The hospital architect reports that the outer walls are beginning to sink, and the whole of the surgical work is threatened with serious curtailment, if not complete cessation, for a while. The whole of this block will have to be pulled down, though it is hoped to keep the original façade. At a luncheon in support of the appeal, held in the board room, attention was called to the cracks across the ceiling painting—a florid composition which represents Thomas Guy being wafted up to heaven on a cloud—which are due to the subsidence of the walls. It was stated to be not a question whether the hospital could continue to compete with changing conditions but whether its fabric could remain standing with safety for those who work or lie in it.

The £316,000 for which the appeal is now made is required principally for the rebuilding of the surgical block to provide 300 beds, but additional accommodation for ward maids is necessary, and it is also hoped to complete the reduction of the debt by setting aside a further £83,000. The present maintenance cost of Guy's is about £221,000 annually, the assured income is £69,000, and the balance of £152,000 has to be obtained from voluntary sources but has not in recent years been fully forthcoming, with the result that a debt of serious proportions has accumulated. The appeal, signed by Lord Goschen, president of the hospital, Lord Nuffield, treasurer, Sir Alfred Beit and Lord Ebbisham, chairman and vice-chairman of the Extension Fund Appeal Committee, and Captain Eric Waley, chairman of the Standing Appeal Committee, points out that although Guy's is a London hospital, it does not confine its work to the metropolis. The records show that over 42 per cent. of its patients come from the rest of the British Isles. The doctors, dentists, and nurses from its school serve in every part of the Empire. Lord Nuffield, in commending the appeal, states that during his lengthening association with Guy's he has been deeply impressed with the skilful way in which the hospital has been run on an economic basis, while ensuring the maximum of care and attention for its patients. "It is this fact which has influenced me so greatly in my decision to make a promise of £80,000 contingent on the balance of the amount appealed for being raised. This statement is made in no spirit of self-advertisement, but purely as an assurance of my knowledge of, and implicit faith in, Guy's. I therefore feel that I can, with a clear conscience, ask others to give, and look forward with confidence to the Governors being in a position to call upon me for this amount."

The Tavistock Clinic

The annual report of the Tavistock Clinic (formerly known as the Institute of Medical Psychology) states that much of the nation's problem of mental ill-health could be solved if only there were more doctors trained to deal with such cases. Hence the Council has come to regard educational work among medical men and women as its most important national contribution, though the resources of the clinic are so small that only twelve a year can be trained. Some time ago the Council acquired a large site on which to erect an adequate medical school, besides a hospital and out-patient department. Lack of funds has held up the work; and meanwhile mentally sick people in all parts of the British Isles are drifting nearer to the "borderline" because there is no one to help them. During the year 1937, in the clinic's restricted premises in Malet Place, Bloomsbury, more than 23,000 hours were spent by the medical staff on giving individual treatment to specially urgent cases. The Tavistock Clinic was founded in 1920, and has grown from very modest beginnings to its present position in the medical world, owing to the enormous demand for treatment of a type of illness by psychological methods for which no out-patient facilities existed in this country before that date. Its work aims at the study, alleviation, cure, and prevention of those disorders of mind which are not classed as insanity or mental deficiency, but which nevertheless cause profound and widespread suffering and economic disability in the community. These comprise hysteria, morbid fears and obsessions, sexual abnormalities, as well as behaviour disorders in children, such as lying, stealing, truancy, and the like. Those of modest means who are in need of such treatment receive as part of their preliminary consultation a thorough physical examination, and both then and during treatment are seen by appointment just as if they were attending a specialist in private. In addition to the work of regular treatment, the medical staff give consultations to numerous patients whose doctors seek specialist advice.

Community Centres and Public Health

On May 5, at the London School of Hygiene, Professor Ernest Barker gave a Chadwick Public Lecture on Community Centres in Relation to Public Health. He said that such centres and the associations behind them had

arisen primarily on new municipal housing estates; but they were spreading to private housing estates, and even to the old and established quarters of our towns. Their aim was physical and general recreation, and they included juveniles as well as adults. They were a new and important development of the general English system of voluntary association; they were also a new and important development in the history of the promotion of public health. Their activities included gardening and various forms of physical recreation; they marked a general attempt to build a good and healthy life, by common effort, in harmony with the environment. They formed a natural "purchase" which the State could use in its efforts to encourage positive physical fitness. There were three ways in which the community centre might contribute to the cause of public health. In the first place, the local authority might establish there some of its statutory medical services—for example, for maternity care and for infant welfare. Secondly, the National Fitness Council might provide the community centre, from the funds at its disposal, with equipment (such as gymnasia and swimming baths) enabling its members to carry their aim of physical recreation to greater lengths and to develop health and happiness more successfully. Thirdly, it was possible (as had already been attempted at the Peckham Pioneer Health Centre) that a community centre might include some form of regular medical overhaul and health supervision among its activities. The Peckham Centre was indeed *sui generis*: medicine and a body of doctors there came first, and a community developed on that basis. With the community centre proper the reverse would be the case: the community would come first, organized as an association, and it might then arrange with the public health medical officers, or by other means, for some system of overhaul and supervision. In any case this development lay in the future: the Peckham Centre, as yet, was on the whole unique, though at least one other centre had arranged for the provision of some medical facilities. Generally, Professor Barker concluded, the community centre, apart from these specific methods, rendered a general service to the cause of public health by being a voluntary organization whose members were fully occupied with activities (mental as well as physical) which used and developed body and mind simultaneously.

SCOTLAND

Insanity in Scotland

The report for 1937 of the General Board of Control for Scotland shows that on January 1 last there were 19,687 insane persons known to the Board, exclusive of insane persons maintained at home. The number of certified patients admitted to institutions during 1937 was 2,735, or 171 more than in the previous year, and the number of patients discharged included 879 recovered and 289 unrecovered; 1,449 patients died. Referring to the results of treatment of general paralysis by the induction of malaria the report states that in many patients the disease had been arrested and some were able to return to their occupations, while the mortality in Scottish asylums from this and other syphilitic affections of the brain had decreased from 201 deaths in 1921 to 67 in 1936. The administration of this treatment in general hospitals in the early stages of disease had further diminished the number of beds required for general paralytics in lunatic asylums. Treatment of dementia praecox by injections of insulin or cardiazol had been tried, but although results were encouraging, it was too early to arrive at definite conclusions. The report also mentions the increasing difficulty that had been encountered in obtaining female nurses for asylum nursing, and states that in six institutions a forty-eight-hour week is already in operation, while it had been decided to introduce these shorter hours in another six institutions. The number of patients boarded out under private care at January 1, 1938, was 2,940, of whom 1,144 were lunatics and 1,510 mental defectives. Reference is also made to the continued insufficiency of institutional accommodation for mental defectives and the dangers resulting from lack of regular and systematized training for juvenile defectives. It is false economy, the report states, on the part of local authorities to allow children under 16 years to go without training in habits and occupation, for untrained and poorly supervised defectives, especially those living under city conditions, run a grave risk of getting into trouble. The cost of rate-aided lunatics for the year was £971,311 and of rate-aided mental defectives £302,288. The total cost to local and imperial funds amounted, therefore, to £1,273,599, of which £56,948 was recovered from private sources.

Glasgow University

At the annual meeting on April 27 of Glasgow University General Council, Sir Hector J. W. Hetherington, the Principal, spoke on the needs of the university. In the last three years the university had accumulated a debt on running expenditure of about £24,000 for which there were no reserves, although some relief might be forthcoming from the Scottish Education Fund. A commission appointed by the Secretary of State for Scotland had been investigating the financial position of the four Scottish universities, although its report had not yet been issued. The university was also in urgent need of capital—for example, a great new chemistry laboratory was being erected in University Avenue at a cost of £165,000, and of that money they had in hand £135,000, so that a further £30,000 was necessary. The Government was paying £3 to the university's £1 for the cost of a new reading-room which would be the central feature in the development of the Hillhead house site at a cost of £20,000, but the university was £5,000 short on this scheme. An offer of £10,000 on a 50 per cent. basis had also been received from the Physical Training Grants Committee towards the cost of quarters for the physical welfare of the men students on the site of the present gymnasium; the university's contribution for this had still to be raised.

Health of Glasgow Children

The report for 1936–7 on the medical inspection and treatment of school children, issued by the education health service of the Public Health Department of Glasgow, records a general improvement in the health of children in that city. It is stated that the average heights and weights are the highest since these reports were first instituted twenty-eight years ago. Gross and serious pulmonary conditions, which were frequently encountered during the early years of medical inspection, are now rapidly disappearing. Many children, however, receive treatment for pulmonary affections of a minor nature, and this may be attributed to the growing appreciation on the part of parents that early treatment is followed by more complete and more rapid restoration to a normal state of health. The report states that there has been considerable development in the provision of new open-air schools, and of open-air classrooms attached to existing schools. Whereas in 1930 there were thirty open-air schools, and nine old buildings with open-air classrooms as extensions, the respective numbers for the year under review were fifty-two and twenty-four. It is estimated that more than 25 per cent. of the school population is now housed in open-air schools and classrooms. The daily milk ration, inaugurated early in 1935, is another factor contributing to the improved health of the children. Bottles containing one-third of a pint of high-grade pasteurized milk are supplied to necessitous children free of cost, and to others at a charge of a halfpenny per bottle. More than twenty million bottles of milk were distributed during the year.

Correspondence

The Heart in Gall-bladder Disease

SIR,—I was much interested in Dr. S. M. Laird's paper (*Journal*, April 23, p. 884), particularly from the statistical point of view. There are certain debatable points.

The number of cases—namely, sixty-four—examined by Dr. Laird appears to be much too limited. If one realizes that it is obviously necessary to consider different age groups separately, this number becomes even smaller (five, eleven, seventeen, and four in Dr. Laird's paper). In view of the fact that the incidence of heart lesions is comparatively high after middle age it seems reasonable to investigate at first only younger patients, say, between 30 and 35 or 30 and 40 years of age. If such investigations should prove definitely either positive association or no association at all between heart and gall-bladder disease for the age group considered, one could afterwards investigate other age groups if necessary.

This criticism would equally apply to the controls of Schwartz and Herman from the point of view of the small number of cases. The choice of controls, in which they exclude cardiac cases *per se*, is also, in my opinion, a debatable point. Would it not be wiser to apply the method very often used in statistics to this particular investigation—that is, *not* to choose a certain number of gall-bladder cases and an equal number of non-gall-bladder cases, but to examine *all* cases in a certain age group admitted to hospital within a certain time and to divide them into gall-bladder and non-gall-bladder cases, subdivide them again into cardiac and non-cardiac cases, then further into obese and non-obese cases, and then to investigate the "association" between gall-bladder and heart disease in each group and subgroup? If this method is used the cases with normal gall-bladders would probably be much more numerous than those with disease of the gall-bladder, and the difficult question as to which cases should be excluded from the control series would not arise.—I am, etc.,

Jewish Herzl Moser Hospital, Leeds, May 5. ALFRED MODEL.

The Planning of Maternity Hospitals

SIR,—In the annotation in your issue of April 30 (p. 955) you quote the recommendation of the Departmental Committee on Maternal Mortality and Morbidity that "new maternity accommodation should, when practicable, be associated with general hospitals," but you add "it is now, however, generally accepted that this recommendation is not in accordance with the lessons of experience. . . ."

The experience of the members of the North-Western Branch of the Medical Superintendents' Society has not led them to this conclusion, and their experience of large maternity departments is not negligible since 2 to 3 per cent. of the births of England and Wales take place in hospitals for which they are responsible. They have recently recommended that accommodation for maternity cases should be provided by municipalities in departments of general hospitals rather than in special hospitals, and they give a number of reasons for this recommendation. The municipal hospital must provide a complete service, and cannot choose and select cases in the same way as a voluntary organization. Hence, provision must be made for all sorts of difficult and awkward cases that do not fit into the neat classification scheme of the ordinary voluntary hospital. It is much easier to deal with these cases when in the background are the resources of a general hospital.

Pregnancy may be complicated by general disease or injury, by venereal disease, by tuberculosis or other infectious disease. It is greatly to the advantage of patients so affected if there is in the hospital a staff specialized in all branches of medicine and surgery to give advice on treatment. The services of the special departments of the hospital, such as the *x*-ray department or the physiotherapy department, can be used for diagnosis and treatment. A general hospital will have a complete pathological department. The post-mortem work can be done by someone who is not in the actual practice of midwifery. The paediatric physician on the staff will be able to advise on diseases of the new-born. Cases of puerperal sepsis can be nursed in a ward attached to a medical unit, attended by nurses who are not doing midwifery, yet they remain under the supervision of the maternity staff. Cases of diseases and complications of the puerperium can be admitted to general wards under the care of the maternity medical staff.

Gynaecology is very intimately associated with midwifery. In a general hospital the gynaecology wards, together with the wards for abortion, will be under the same staff as the maternity unit. In the wards of a general hospital patients who are admitted suffering from some general disease such as pneumonia, cardiac disease, etc., are sometimes found to be pregnant. These patients are likely to benefit by the advice and treatment of an obstetrician. Lastly, in a general hospital there will be a medical and lay administrative staff to give help in all kinds of administrative matters.—I am, etc.,

HENRY H. MACWILLIAM,
Chairman, North-Western Branch, Medical Superintendents' Society.

Liverpool, May 2.

Sulphanilamide and Pentothal Sodium

SIR,—Since the recent increase in the use of sulphanilamide preparations, an anaesthetic risk has arisen which I have not yet seen mentioned in the medical press. It is well known that in certain individuals the simultaneous administration of sulphanilamide and drugs containing sulphur may cause sulphaemoglobinaemia. As the molecule of pentothal sodium contains a sulphur atom and the drug is usually given intravenously, it seems very probable that trouble may arise if it is given to a patient who is receiving sulphanilamide.—I am, etc.,

London, N.W.8, May 3. C. LANGTON HEWER.

Divinyl Ether Anaesthesia

SIR,—General practitioners working at small hospitals need a good method of anaesthesia which can be applied safely and conveniently to a wide range of different cases. In many such hospitals a Boyle's apparatus is available. As sent out by the maker this apparatus usually has one bottle for chloroform and one for ether. Filling both bottles with ether is a common practice and has the advantages of safety and a high concentration of ether. Induction is not very rapid and large quantities of ether have their disadvantages. Since reading Dr. Victor Goldman's paper (*Journal*, December 25, 1937, p. 1265) I have used one part of divinyl ether to three of ethyl ether in the first bottle, and ethyl ether alone in the second bottle. (The divinyl ether has been obtained from Messrs. May and Baker under the trade name of "vinesthene.")

I have given this anaesthetic to twelve children for tonsillectomies, and to seventeen adult patients of both sexes, whose ages ranged up to 70, for procedures varying from appendicectomy to hemicolectomy. The premedication undertaken varied; two or three nervous patients had morphine, grain 1/4, and hyoscine, grain 1/150. At least three of the adults and most of the children had no atropine, but most of the adults had 1/75 grain of atropine. In every case induction was smooth, quick, and easy, except for momentary cyanosis with mucous obstruction in one child who had had no premedication but gave no real anxiety. The mixture was demonstrably stronger and less irritating than ether, but does not seem so strong as to be dangerous, even in inexperienced hands.

I have so far turned on the ether bottle freely for upper abdominal operations, but the relaxation even in patients who were not deeply under the influence of the ether has usually been excellent. A patient under gas and oxygen and divinyl-ether–ethyl-ether anaesthesia who would almost become conscious if given a few breaths of air may nevertheless be fit for abdominal surgery. As regards mouth and throat operations, tracheal intubation has disadvantages, and is not always easy for those who do it rarely; di-ethyl ether (with gas, oxygen, or air) has to be used in prodigious quantities in a robust patient: a practical alternative to these without chloroform is valuable. The mixture, given continuously with gas and oxygen into the side of a mouth open for tonsillectomy maintains as easily as chloroform would anaesthesia of moderate depth.

Recovery after short but quite deep anaesthesia is disconcertingly rapid—an excellent thing when little post-operative pain or shock is expected. Where pain or shock was expected it appeared wise to order morphine before, during, or immediately after the operation. The post-operative stage is satisfactory; there has been practically no vomiting, no untoward symptoms have arisen, and I think the elderly patients have coughed a good deal less than one would have expected after ethyl ether alone. In conclusion, this mixture appears to me to possess such definite advantages that in spite of the high price of divinyl (approximately 3s. per ounce) it ought to receive a much wider trial than I can give it.—I am, etc.,

Woodford Jubilee Hospital, April 28. E. B. GROGONO.

"Gonococcus Antitoxin" for Gonorrhoea

SIR,—In answer to the adverse critics on this subject in your recent correspondence columns, may I refer again to my reply (March 26, p. 701) to the paper published by E. T. Burke, J. Gabe, A. H. Harkness, and A. J. King (March 19, p. 605), in which they recorded complete failure to obtain a single satisfactory result with gonococcus antitoxin.

In my last paragraph I wrote:

"Upon analysis of twenty-five consecutive cases treated [with gonococcus antitoxin] in the latter part of last year the results are comparable to those already published by myself. As it is impossible to give full details of the protocols here I will gladly submit these records to the authors. They are not from my pen but are the routine observations written by my various medical colleagues in the venereal department at St. Thomas's Hospital."

May I add that the cases *were* carefully investigated, and "prontosil or some allied substance" was *not* used "by way of adjuvant."

These authors did not accept this invitation, nor, before the publication of their article, either verbally or in writing, did they ask for my observations or inform me of their experiences with the antitoxin (a new product still in the early stages of investigation). I extend the invitation to your correspondents Dr. W. Lester and Dr. N. Seddon-Taylor to visit the venereal department at St. Thomas's Hospital and inspect the protocols for themselves. There the out-patients suffering from acute gonorrhoea are given antitoxin as a routine. May I repeat that this would not be done, nor would I permit it, were they obtaining no therapeutic benefit or experiencing the severe reactions described in such a high percentage by E. T. Burke and his co-workers.

At the moment the response of cases (the tenth series under observation) to antitoxin with sulphanilamide is being investigated. The possibility of such a combination was referred to by myself in *St. Thomas's Hospital Reports* (1937, **2**, 67) and, more recently, in the *Medical Annual* for 1938.—I am, etc.,

London, W.1, May 9. T. ANWYL-DAVIES.

Insulin for Schizophrenia

SIR,—In reply to Dr. B. H. Shaw's letter in your issue of May 7 (p. 1026), there are some points which might interest him in a paper I read before the Royal Medico-Psychological Association (S.W. Division) a day or two ago. The subject was: "A Variation of the Treatment by Insulin Shock," in which neither shock nor coma is produced. Insulin and histamine are used together in subtoxic doses, the patient is in no way upset, and the results so far are good. In this method there is no sudden spectacular return to normality, but the return proceeds slowly and can be watched. If the patients react well they do not seem to slip back.—I am, etc.,

HORACE HILL,
Medical Superintendent,
Laverstock House.

Salisbury, May 7.

Origin of Cancer

SIR,—In connexion with the interesting correspondence on the causation of cancer, I would like to submit the following suggestion.

In his embryological development the individual reproduces the history of his race—that is, in order to reproduce our kind a start has to be made from the beginning. In the mental sphere we find the same start *ab initio* whenever a major readjustment to circumstances is required. For instance, grief is a condition not far removed from the infantile state, and the same applies to many psychoses and psychoneuroses. Without a due sense of grief or other infantile regression complete recovery or readaptation is impossible and neurosis results.

The second principle concerns the nature of the tissues attacked by malignant disease. The body, or that part of the psychosomatic unit which is exposed to the material environment, may be said to possess two surfaces. The aerial surface comprises what is usually known as the outer surface, with its infoldings, the skull sinuses, auditory meatus, etc. The aquatic surface, on the other hand, consists of the linings of the blood vessels, lymphatics, pericellular lymph spaces, and the cell membranes. This separation into aerial and aquatic surfaces is not, however, quite perfect. The respiratory tract and the gastro-intestinal canal, for instance, are purely aquatic surfaces in aquatic animals. In land animals, on the other hand, the lining membranes of these tracts are intermediate between the two types of

surface. They are phylogenetically newer and therefore less adapted to their function than the older aquatic surfaces. They are also moist surfaces exposed to both aerial and aquatic conditions, and they have not had the chance of adaptation to their conditions that the outer, aerial, surface has had through constant exposure to the air. In the case of the gastro-intestinal tract, bile ducts, and canaliculi, etc., the constantly moist conditions preserve in them a tendency to retain their aquatic character, whereas the presence of gases must create some tendency towards the establishment of an aerial form of surface. That this transitional surface is a special surface is shown by the special types of epithelium with which it is covered.

It is not surprising that these transitional tissues, subject to both an aquatic and aerial environment, should be burdened with an inherent instability. If we may infer such an instability, then readjustment must at times be necessary, and, as we have seen, where readjustments are required the repetition principle operates, the tissue reproduces itself in embryonic cells, and, since readjustment to such difficult conditions must be hard to achieve, the process continues, the affected organ forming, as it were, a uterus in which the new tissue proliferates.

Malignant disease would appear, then, to be an attempt on the part of an unstable transitional surface at readjustment, in accordance with the repetition principle, to external conditions which are not constant.—I am, etc.,

Exeter, May 7. H. WILFRED EDDISON, M.D., D.P.M.

SIR,—There is such an amount of reasoning from analogy in the most interesting, instructive, and valuable discussion on malignant disease in your correspondence columns that one might well be certain of the facts.

Mr. E. G. Fenton (*Journal*, May 7, p. 1024) states that the potential of a weight in a grandfather clock is greatest at the top. Surely the potential is the same all the way down, else the clock's speed must vary. Is Mr. Fenton's "developmental energy" not our old friend and mystical power the force *hypermécanique*, that vital force which, neither physical nor chemical in its nature, was held to be active in living organisms only? This doctrine was finally overthrown. It slips in now and then. Whether it explains anything is a point, and the *Encyclopaedia Britannica* says: "It would, it is true, appear as if in our day, after the lapse of half a century, mystical tendencies were again disposed to crop up in the investigation of life." This makes it all the more important to get the facts right. Surely the weight is at the same "potential" all the way down.—I am, etc.,

Crewe, May 7. W. L. ENGLISH.

SIR,—I should like to put forward the following hypothesis as going some way to explain the relation of the two causes of cancer—"virus" and "chronic irritation." If the intracellular virus which is fundamentally responsible were only able to penetrate the cell membrane and successfully invade the cell during a particular phase of cell division or mitosis, in which the resistance of the cell membrane was weakened, then the operation of some factor which prolonged this phase might be a necessary preliminary to the formation of a cancer cell. Such factors would be: (1) most chronic irritants, causing repeated division of the cells under unfavourable circumstances; (2) antagonistic hormones, one stimulating division and the other inhibiting it; (3) the age of the patient; and (4) vitamin deficiency. In the case of (3) and (4) there is a shortage of factors essential for cell growth. In some animals the activity of a special strain of virus might be such that invasion was often possible without the aid of such a factor or with only the irritation of the injection itself to assist (Rous sarcoma), but normally both the seed and a certain amount of specially prepared soil would be necessary.

In the human body the virus is probably universally present, but normal cell division provides an insufficient susceptible phase. After successful invasion the virus causes changes in the nuclear material of the cell which, as has already been pointed out, are very much akin to fertilization, and the cell then goes on rapidly growing and dividing without regard to the needs of the body, its only function being to act as host for the virus with which every cell of the growth would be infected from the start.—I am, etc.,

London, W.1, May 3. C. R. ORME.

Sterilization of Hypodermic Syringes

SIR,—In the *Journal* of April 30 (p. 955) there is an annotation referring to the sterilization of hypodermic syringes. I would like to describe a method I have used for over thirty years, never seeing any sign of sepsis after an injection. I was taught by Sir Almroth Wright to sterilize the syringe with boiling olive oil in the following way. Have in a small crucible half an ounce of olive oil and a tiny crumb of bread. Put a spirit lamp underneath and boil till the crumb turns brown. Then fill the syringe full, avoiding the crumb. Do this no more than twice, or the solder holding the nozzle to the glass barrel will melt. Sir Almroth Wright told me that the heat of boiling oil will kill all spores as well as germs.

The next point is the use of a platinum needle, which may cost 7s. 6d. but with care lasts for a year. When about to give an injection all that is required is to draw the needle through the spirit lamp flame. The needle becomes red hot, and is then ready to suck up the vaccine or other solution. I have always used a Record syringe in a metal case that takes the syringe with the needle left on. When going out on a visiting round I measured my dose in the syringe, boiled a drachm of water in the metal case, poured it out, and replaced the syringe in the case. It was then ready for use. If by chance I touched the needle on anything it was quite easy to put the platinum needle through a flame. There is no need, in my experience, to use the boiling oil in the syringe more often than once a week if the needle is kept on the nozzle. There must be hundreds of men who were trained by Sir Almroth Wright in his method of syringe sterilization. Why they persist in using the messy, elaborate boiling water method with steel needles passes my comprehension.—I am, etc.,

Birmingham, May 4. J. SANDISON CRABBE.

The Phenomenon of Refection

SIR,—We have read with interest the annotation upon the phenomenon of refection in your issue of April 2 (p. 741).

We have worked for some ten years on this phenomenon, and our latest findings, embodied in a thesis by one of us (P. M. Kon) in 1935, and reported in the *Journal of Hygiene* (1938, **38**, 1), may be of interest to your readers. We agree with Nathan that no specific organism can be held to be responsible for refection. Further, we too believe that undigested starch provides the pabulum for the growth of bacteria producing vitamin B. But we have

found that the major difference between refected and non-refected rats lies in a lowering of the *p*H of part of the intestinal tract, which in the refected animal facilitates the absorption of the vitamin B formed by the intestinal flora. The condition thus established is analogous to that normally found in the bovine, and the refected rat, like the bovine, is rendered independent of an exogenous supply of vitamin B.—We are, etc.,

P. M. KON.
S. K. KON.
A. T. R. MATTICK.

The National Institute for Research in Dairying, University of Reading, May 2.

Tuberculo-protein

SIR,—I was interested in the article on tuberculo-protein by Dr. A. T. Doig and others (*Journal*, May 7, p. 992). Dr. H. J. Parish of the Wellcome Physiological Research Laboratories kindly supplied me with a batch of tuberculo-protein, and I conducted a small investigation at the tuberculosis dispensary with it during 1937. I examined 100 patients, nearly all home contacts of tuberculous patients, varying in age from 3 months to 66 years. I injected into the skin of the right forearm 0.1 c.cm. of tuberculo-protein, and into the skin of the left forearm 0.1 c.cm. of 1 in 1,000 old tuberculin; the results were noted either two or three days later.

In 26 patients the reactions were negative in both arms.

In 53 patients the reactions were positive and equal in both arms.

In 13 patients the reactions were positive in both arms, but greater in the right (tuberculo-protein).

In 8 patients the reactions were positive in both arms, but greater in the left (old tuberculin).

In no case was one positive and the other negative.

When considering the inequality in reactions one should always remember the practical difficulty of injecting exactly 0.1 c.cm. into the skin on every occasion. As a result of this experience I came to the conclusion that for dispensary use where considerable numbers of patients are tested and fresh supplies of old tuberculin are available tuberculo-protein has no real advantage over old tuberculin. At the time I did not know of the work of Parish and O'Brien on the tenacity of tuberculin to glass, and on some occasions the same syringes were used for both solutions, being washed out with surgical spirit and distilled water between each injection. Perhaps this was insufficient, and because of it my results may be, to some extent, invalidated.—I am, etc.,

A. S. HALL,
Harrow, May 9. Tuberculosis Officer to the Middlesex County Council.

The M.R.C.P. and Psychiatry

SIR,—The L.C.C. Mental Hospitals Department is adopting a policy which may prove ultimately to be unwise. Medical officers in that department are now informed on their first promotion that subsequent promotion is dependent on their obtaining the M.R.C.P. The following points should, I think, be considered:

1. Medical officers joining the service must obtain the D.P.M. within three years or their appointment ceases. This is a reasonable stipulation, as psychiatrists should be qualified in their special subject.

2. By specifying that M.R.C.P. is essential for promotion in addition to the D.P.M., medical officers for a considerable time after joining the service concentrate on reading for examinations and attending courses. The result is that they have little time or attention for their proper duties of investigating and treating their patients, and these will be neglected proportionately.

3. This stipulation is making the M.R.C.P. bear a significance which it is not designed to have. By forcing more and more people to take it it is becoming the "qualifying" examination in medicine and university degrees are being pushed into the background.

4. M.R.C.P. does not necessarily make a person a better psychiatrist. Some medical subjects are intimately connected with psychiatry, and these are presumably covered in the D.P.M. course. But surely *psychiatry* is still the more important part of psychiatry in practice.

5. The work of a doctor in a mental hospital should be judged by his capacity to return patients to the community and to improve the lot of those unfit for discharge. To what extent is this aim being achieved under present conditions? Too often the M.O. "looks at his patient through his stethoscope" (and being an M.R.C.P. is doubtless mightily interested). All honour to those of us who have laboured and been rewarded with the M.R.C.P. But until a broader view is taken of mental illness and encouragement is given to psychiatrists who have a more comprehensive approach to the problems of mental illness many patients who might otherwise recover will continue to languish in mental hospitals.

I suggest that if higher academic degrees are wanted a *psychiatric* qualification—for example, "D.P.M. Part 3"—be arranged as a criterion of promotion in the service and notice be taken of the candidate's capacity to secure practical results by treatment of his patients. Our mental hospitals are overflowing. At present we are not doing as much as we might to get our patients well because we study their bodies more than their minds (if such a dichotomy can be allowed).—I am, etc.,

April 30. A.M.O.

Treatment of Placenta Praevia

SIR,—After dealing recently with a case of placenta praevia, a condition which may be described as the general practitioner's bugbear, I reflected as to the best course of action to be pursued in the treatment of this condition.

The patient was a primipara, aged 22, and had had a normal pregnancy to within fourteen days of term. Twenty-eight days before term the head engaged satisfactorily and was in the first vertex position. Slight labour pains began at 6 p.m. one day and there was profuse bleeding. Vaginal examination showed a one-finger dilatation of the cervix; to one side was felt the firm mass of a marginal placenta praevia. The membranes had ruptured and the foetal head was engaged in the pelvis. There was a steady loss of blood, which increased with each successive pain. The mother's general condition was good. The foetal heart sounds were loud and at a rate of 120 a minute.

There appeared to be two alternatives—Caesarean section and conservative treatment. Caesarean section implied the danger and delay of transit (my patient was in an isolated cottage), with the additional risks of her exsanguinated condition before she reached the operating table, and eventual sepsis. Conservative methods implied the awaiting of a slightly increased dilatation which would permit an internal version under general anaesthesia and plugging by the half breech. I chose the latter course and waited until 9 p.m. There was now a two-finger dilatation of the cervix. I therefore anaesthetized the patient and proceeded to dilate the cervix gradually with the first two fingers of my left hand without proceeding to an internal version. In about three-quarters of an hour the cervix was sufficiently dilated to allow of the application of forceps. Free haemorrhage occurred during this interval, but was not of an alarming degree. Delivery was perforce very slow, since I was drawing an unmoulded head through the pelvic cavity. An 8½-lb. live child was, however, eventually delivered without damage either to the cervix or to the perineum. The third stage was rapidly completed and the mother's condition, though grave, gave rise to no great anxiety. The foot of the bed was raised, a binder applied, hot bottles were placed at her feet, and

pituitrin was injected. The district (Queen's) nurse, who was my only assistant, proved a very efficient anaesthetist and general help.

On the third day following delivery the temperature rose to 101° F. and the lochia was slightly offensive. Prontosil by the mouth steadied the fever in two days, and the patient then had an uneventful puerperium, being up and in good condition on the fourteenth day.

Is this method of manual dilatation of the cervix under anaesthesia followed by forceps delivery not a possible solution to the problem of treatment of placenta praevia, at least in its commonest lateral form? For all practical purposes the diagnosis of placenta praevia is by the vagina. This implies some degree of septic contamination, and it is very doubtful if Caesarean section is ever justifiable after a vaginal examination. Caesarean section is also a grave undertaking in the case of a young primipara in view of succeeding pregnancies. Turning by the internal or external methods and plugging by the half breech may save the mother but will lose the child. There does not appear to be any less risk of shock, haemorrhage, and subsequent sepsis from the last-named manœuvres than from that which I have outlined.—I am, etc.,

Jersey, May 5. H. GORDON OLIVER.

Pasteurization of Milk

SIR,—Much as I respect Dr. Halliday Sutherland I regret to observe a tone of rancour in his letter in the *Journal* of May 7 (p. 1028). I hope I am wrong, as we are both trying to do a public service to the best of our ability. He infers that I am asserting without reasoning. I gladly leave that to the judgment of others. I do most certainly attach the greatest importance to milk tests for bacteria; he would be a fool who did not. But in Dr. Sutherland's earlier letter and in mine we were discussing the effects of pasteurization on fertility, an entirely different proposition. I adhere to all I wrote. Tests on rats from that point of view are of very little value in respect of humans. I agree with Dr. Sutherland that there are many causes for the falling birth rate—mostly economic—but careful reasoning does not convince me of any likelihood that the pasteurization of milk has an appreciable influence thereon. Milk in any form has but a small place in the adult diet. I fail to see any lack of logical deduction in the statement that a healthy nation, even if it should be slightly less fertile, is far and away a sounder proposition than a larger nation the stamina of which is undermined by a contaminated milk supply. I, in common with the vast majority of our people, will not accept Dr. Sutherland's pessimistic prognostication that the nation will cease to exist if it persists in drinking pasteurized milk. I am optimistic enough to believe that Britons will take a lot of wiping out, and that pasteurization of milk will not help to that end.

I agree again with Dr. Halliday Sutherland that no cow, if it be negative to the tuberculin test to-day, will be positive in three months unless it be infected in the interval. That is exactly what does happen, and was my obvious inference. The cow has been infected and the milk from that cow is sold to the public before the infection is detected as certified milk. He goes on to say "and infection can be prevented." Will Dr. Sutherland tell us how infection can be prevented with any degree of certainty? The whole world is anxiously looking forward to the day when such a happy discovery is given to them.

Anyone can purchase what is termed "clean" milk from almost any dairy, but that is not the point at issue. The point is, Is that "clean" milk safe and entirely free from potential pathogenic germs? I deny that any raw milk, however clean it may be stated to be, can be guaranteed to be entirely free from active pathogenic germs unless and until it is pasteurized. The fact that 40 per cent. of cows in Britain are tuberculous, as stated by Dr. Sutherland, is a very conscious admission on his part that my contention that raw milk is an unsafe food (especially for children) is absolutely sound, and that pasteurization is the only scientific process at present known which can render milk safe for human consumption. Of course it can be boiled, but that is outside our discussion. It must be borne in mind that milk brought to London is conveyed for the most part in bulk and obtained from many sources.—I am, etc.,

London, S.W.16, May 7. JAMES KIRKLAND.

SIR,—I notice that Dr. James Kirkland, in your issue of April 30, questions the fact that certain strains of coli will survive the pasteurization process. I, in my ignorance, had imagined that this was now generally accepted, as certainly a number of bacteriologists whom I have questioned on the subject have been most emphatic; and if this was not the case, how was the coli test omitted from the qualifications of the pasteurized milk grade in the last Milk Act Amendments? While admitting that the coli test may not give an accurate indication of the state of infection, I had always understood that at least if it was positive the evidence of infection was conclusive, while a negative result had not the same certainty.

To deal with Dr. Kirkland's second question, it is, I think, generally agreed that the process of cheese manufacture (in which a high acidity is induced in the milk) destroys the tubercle bacilli; and the argument for taking yoghurt has been that the bulgaricus and other lactic organisms have a controlling effect on the intestinal flora. I had imagined that the acidity induced in unpasteurized milk by the lactic organisms would have also had an effect in controlling the growth of pathogenic organisms of all kinds, and that therefore their growth in unpasteurized would have been less pronounced than in pasteurized milk once the bottle was opened in the home of the consumer, for certainly the first step in pasteurization is the destruction of the lactic acid organisms. I have known people to say to me that they have kept pasteurized milk open for a week and still found it drinkable. Is this really in the interests of the consumer? It is for this reason that I ask for an experiment on the lines of my last letter.

In the annual report on the public health of Worcestershire, 1936, by Dr. Wyndham Parker, County Medical Officer, it is stated that "in 22 instances (one-third of the total number of samples) pasteurized milk supplied to schools failed if the standard applicable to the old grade of 'Certified' milk is adopted—namely, that the milk must not contain *B. coli* in 1/10th c.cm." Does Dr. Kirkland suggest that Dr. Wyndham Parker did not take the necessary steps to see that these samples were not contaminated "after the cap had been interfered with"?

Dr. Kirkland also makes some statements about the use of the tuberculin test in ensuring a safe milk supply. As a T.T. milk producer of some nineteen years' standing, and one who has taken an active part in tuberculosis eradication among our dairy cattle in Ayrshire, I think I may state that the only chance of infection of the milk supply within three months of a satisfactory test is where a closed lesion has broken down. Where, how-

ever, the cattle have been regularly tested without reaction the chances of infection to an extent to endanger the milk supply, at this stage, are so rare as to be almost negligible. It would be as reasonable to suggest that travellers on buses or tube trains should insist that the vehicle should be disinfected every time a passenger left or a new passenger entered. Will Dr. Kirkland suggest that there is no destruction of the enzymes, or that he knows the full function of these in metabolism? I can only quote the case of a child suffering from bovine infection of the intestine, who, on pasteurized milk, made no progress but rather went back. I was asked by his doctor to supply a reliable raw milk from my own farm, and within three months that child was well on the way to complete recovery.

In view of the doubts which still exist in many minds, both medical and lay, are we entitled to insist that such a far-reaching step should be taken as to prevent the public from obtaining the milk supply which they believe to be best for themselves and for their children? I personally am convinced that much further investigation is required—whether by a Royal Commission or otherwise—so that some unanimity may be obtained and a decision may not be come to on short-term tests with contradictory results, whereas the full effects of diet may not show till the lapse of several generations.—I am, etc.,

Rowallan, Kilmarnock, May 9. ROWALLAN.

*** This correspondence has now run its course, and rhetorical questions can be answered elsewhere.—ED., *B.M.J.*

Actinomycosis

SIR,—Will you permit me to point out that the reviewer of the monograph on *Actinomycosis* (May 7, p. 1006) thinks of me more highly than he ought to think when he suspects that the coloured drawings in the book are from the "author's own hand." Much as I would like it to be true, the compliment is undeserved. Most of the coloured illustrations were done by Mr. Thornton Shiells, but the drawings of microscopic sections were from the hand of Miss Nicholson. I would like to take this opportunity of thanking them for their skilful work.

May I also correct an error which appears in the review where it is stated that "about sixty cases in man occur in the United Kingdom annually"? The fact is that about sixty persons a year *die* from the disease in England and Wales. This number would be from among several hundred attacked by actinomycosis.—I am, etc.,

London, W.1, May 8. V. ZACHARY COPE.

The Services

The War Office announces that Dr. I. W. Magill has been appointed honorary consultant in anaesthetics to the Queen Alexandra Military Hospital, Millbank.

NAVAL COMPASSIONATE FUND

At the quarterly meeting of the directors of the Naval Medical Compassionate Fund, held on April 22, with Surgeon Rear-Admiral S. F. Dudley, O.B.E., Deputy Medical Director-General of the Navy, in the chair, the sum of £214 was distributed among the several applicants.

Medico-Legal

A FATAL SWAB CASE

A surgeon and a theatre nurse were sued for negligence at Manchester Assizes on April 25, before Mr. Justice Atkinson and a jury, by Mrs. Elizabeth Mahon, the mother of Thomas Mahon, aged 25, who had died as a result of toxaemia due to a swab being left in his abdomen after an operation on March 4, 1937.

Mr. R. P. Osborne, the resident surgeon who performed the operation at the Davyhulme Park Hospital, near Stretford, said he had done between six hundred and seven hundred abdominal operations. The patient had a perforated duodenal ulcer, and an immediate operation was necessary. Nurse E. M. Ashburner, the second defendant, was his theatre sister. During the operation a note of the number of swabs being used was kept on a blackboard in the theatre. The swabs were brought in bundles of five, and were checked by the theatre nurse or staff nurse before use. He had no doubt that death was due to the swab, and said that there had probably been a miscount, as he had been told the number of swabs was correct. It was a packing-off swab, 10 inches by 8 inches, and his theory was that the forceps must have slipped off the tape at some time during the operation. The only other explanation was that two swabs had been given him rolled up together, one with forceps on and the other without. In cross-examination he agreed that it was his duty to place swabs in and take them out. He had known forceps to slip off a tape during an operation. He could not explain why he had not seen the swab; it must have been hidden from immediate view. He demonstrated the operation to the jury on a plaster model.

Miss E. M. Ashburner said she counted the swabs, placed them on the operating trolley, and wrote the number on the blackboard. By the time they reached the table they had been checked three times. She had checked the swabs after this operation and found them correct. Mr. A. Graham Bryce, visiting surgeon to the hospital, who said that Mr. Osborne was a first-class surgeon with experience, sound judgment, and judicious caution, liked the system of checking swabs better than any other he had used or seen. Professor John Morley said that he had once been saved from leaving a swab in the patient by the theatre sister, who told him just before he closed the abdomen that she had miscounted. A surgeon had to balance in his judgment the harm he might do by an extensive search against the harm he might do by leaving the swab behind. In order to avoid unnecessary searching the surgeon relied on the nurse's count. An extensive and prolonged search might make the difference between life and death. The system in use was carefully thought out. If the surgeon had been told the swabs were correct, and had no reason in his own mind to think they were not correct, it would be wrong to make a search.

The learned judge, in summing up, remarked that Mr. Osborne, whose evidence commanded belief, said he had taken out all the swabs he could see and was aware of, but did not suggest that he felt round for any others. The jury found that Mr. Osborne did not make a reasonably sufficient search for the swabs, and that if he had the search would have disclosed the missing swab. They assessed damages at £600 and £16 funeral expenses, but added a rider that Mr. Osborne was working under difficult circumstances. They found that Miss Ashburner had not been negligent.

In view of the possibility of an appeal, comment on this interesting case must be postponed. Nurse Ashburner had actually had judgment signed against her before the trial, as she had not entered an appearance—that is, she had not formally acknowledged the writ of summons—owing to a misunderstanding. The judgment against her, however, was set aside by consent.

Obituary

W. H. MAXWELL TELLING, M.D., F.R.C.P.,

Consulting Physician, General Infirmary at Leeds.

Dr. Maxwell Telling, honorary consulting physician to the General Infirmary at Leeds and professor of forensic medicine in the University of Leeds, died at his home on April 28 at the age of sixty-three. His health had not been good for a number of years, but, except for a few brief occasions when he was actually laid aside by illness, he had continued most of his manifold activities until within three days of his decease. A somewhat slowly developing but progressive cerebral haemorrhage was the immediate cause of death.

Walter Henry Maxwell Telling was born in Surrey (his grandfather, Thomas Henry Maxwell, was a freeman of the City of London) and educated at Camberwell Grammar School and Guy's Hospital. He graduated M.B., B.S.Lond. in 1898 and M.D. (with gold medal) three years later. After holding a number of junior appointments at Guy's he came to Leeds in 1900 as resident medical officer to the General Infirmary, an institution which he was to serve faithfully and well for the rest of his life. He was elected assistant physician in 1903, physician in 1912, and consulting physician in 1932. He was elected a Member of the Royal College of Physicians in 1902 and a Fellow in 1913.

Telling's first formal appointment in the University of Leeds—in May, 1906—was as a clinical lecturer in medicine. Prior to that he had had charge for a few years of a section of the pathological museum, and in 1907 he became honorary demonstrator in medical pathology. In 1910 he was appointed to the newly constituted post of clinical subdean, an office which he held for three years. Becoming lecturer in pharmacology and therapeutics in 1921, he succeeded Dr. H. J. Campbell of Bradford in the chair of therapeutics in 1923. Two years later he was promoted to the chair of medicine and headship of the department of medicine in succession to Dr. Wardrop Griffith. His tenure of this office was automatically terminated seven years later by his retirement according to rule after twenty years' service on the full staff of the Infirmary. As it happened, Dr. F. W. Eurich had just retired from the chair of forensic medicine and so, in 1932, Telling was appointed in his place.

While Telling's professional career was thus mainly and inseparably bound up with these two great institutions, the General Infirmary and the University of Leeds, he had many other professional connexions. He was, at the time of his death, consulting physician to St. James's Hospital, the Maternity Hospital, the Women's Hospital, the Jewish Hospital, and the Cookridge Convalescent Hospital. In 1905, in conjunction with the late Mr. J. F. Dobson, he was responsible for the development of a children's clinic in what was then the Women and Children's Hospital. Seven years later this clinic was transferred to the Infirmary, and became in due course the large and important department which it now is. The department of dermatology also owed much of its subsequent success to his tireless advocacy and stimulating encouragement in the initial stages.

As physician and clinical teacher Telling held a deservedly high position. He had been trained in the school which had carried on the traditions of Bright, of Addison, of Hodgkin, and of Willis, and it is not surprising that his clinical teaching was broad-based on the sure foundation of a wide and intimate knowledge of morbid anatomy. In his own words: "Pathology is the breath of life to clinical medicine. Upon it we rely more and more, both for data and for inspiration. . . . There is more solid medicine to be *understood* in the post-mortem room than in either wards or out-patients, taken separately." (*University of Leeds Med. Mag.*, 1931, **1**, 11.) When the writer of this memoir joined the staff of the Leeds Infirmary in 1910, Telling was in his seventh year as assistant physician, and as such was also an honorary pathologist to the hospital, responsible for the performance of post-mortem examinations on one day a week. It was a delight to see him at work in the post-mortem room. His thoroughness, his enthusiasm, his lucid and forceful expositions were at once a revelation and an incentive to the newcomer. As a clinical teacher he excelled. Thoroughness in the investigation of cases and accuracy in the recording of findings he insisted upon, and the summaries which he was accustomed to dictate to house-physician or clerk when patients were discharged (or died) were masterpieces of succinct yet comprehensive statement. In the post-mortem room, similarly, he liked to have a "pathologist's commentary" on every case in addition to the anatomical diagnosis.

Despite his concern at one time or another with various special departments, Telling remained a general physician, of the broad-minded, commonsense type. For many years he had been actively interested in psychological methods of investigation and treatment, and, indeed, was a pioneer, and the chief authority in the North of England, in this field. He was in full sympathy with the Archbishop of York's movement for the development of greater co-operation between doctors and clergy in psychological matters and for the better psychological education of both professions. In the field of legal medicine he also occupied a distinguished and authoritative position. He had an intimate knowledge of the Workmen's Compensation Act and was a skilful and experienced medical witness. In the board of medicine and clinical committee of the University and in the Infirmary faculty (of which he was chairman for three years) Telling did valuable and lasting work. Many of the best features of the clinical curriculum as it exists in Leeds to-day and of the teaching arrangements in school and hospital originated in his active and fertile brain.

In his earlier years in Leeds Telling published many accounts of interesting and unusual cases. Later his contributions to medical literature were mainly concerned with the subjects which he had made particularly his own: intestinal diverticulitis, fibrositis and allied conditions, and psychology in relation to medicine. His most considerable achievement, rightly described as a classic, was the comprehensive paper, of monographic proportions, published jointly with Dr. O. C. Gruner in

the *British Journal of Surgery* (1916–17, **4**, 468–530), entitled "Acquired Diverticula, Diverticulitis, and Peridiverticulitis of the Large Intestine."

Some of his other professional and semi-professional activities may be briefly mentioned. He was intensely interested in the training of nurses and in their welfare, and as an influential member of the nursing committee of the Infirmary he was able to do much for the furtherance of his high ideals in both these directions. He was largely responsible for the present nursing curriculum in Leeds and, with Professor J. Kay Jamieson, for the institution of a diploma in nursing in the University. The almoner's department of the Infirmary also owed much to his sympathetic interest and support. He was much interested in massage and related subjects and was a prime mover in the establishment of a department of chiropody in the Infirmary. During the war he was divisional medical officer at the East Leeds War Hospital section of the 2nd Northern General Hospital, with the rank of lieutenant-colonel. A member of the British Medical Association for nearly forty years, he was secretary of the Section of Medicine at the Liverpool Meeting in 1912 and vice-president of the Section of Therapeutics and Pharmacology at the Cardiff Meeting in 1928.

His interests outside medicine covered a wide field. He was actively interested in freemasonry and was a Past Master of Zetland Lodge and a foundation member of the Lodge of Living Stones. In 1927 he was appointed Senior Grand Warden of the West Yorkshire Province. He was made a Justice of the Peace for the City of Leeds in 1937 and was an active and keenly interested member of the Bench. He was a warm supporter of the Oxford Group Movement and a vice-president of the Leeds Psychic Research Society. Always fond of music and a regular attender at the Leeds Musical Festivals, he had been a staunch supporter of the ill-fated British National Opera Company. He was passionately fond of gardens, especially rock gardens, and in summer his own garden, overlooking Kirkstall Abbey, was a joy and delight. For many years he had been a keen and discriminating collector of china, especially Chinese porcelain.

Personally, Telling was in truth a remarkable man. Those who came in contact with him were immediately aware that here was one possessing great force of character. When he took up a cause he threw himself wholeheartedly into the fray, giving and taking shrewd blows, alienating some, gaining the enthusiastic support and admiration of others. He was an excellent speaker, persuasive in argument, cogent in reasoning, lucid in exposition, and, when occasion demanded, delightfully and sparklingly humorous. No "chief" was ever more willingly served or held in more affectionate regard by his housemen. His was indeed a stimulating influence and he had a faculty for getting people to give of their best. In private life he was a warm-hearted, generous, and loyal friend and a genial and charming host. Dr. and Mrs. Telling's hospitality was proverbial, whether in their home in Leeds, in that delightful and secluded retreat at Airton in Malhamdale to which they used to go in summer, or at the opera. In his later years Dr. Telling had become more than ever interested in matters spiritual and psychic. In the remarkable tribute paid to him by the Vicar of Leeds at the funeral ceremony in the parish church these words occur:

"There was a quality in the mind and spirit of Maxwell Telling by no means common. He was one of the rarer spirits. He was one who lived his life really within his own soul. However actively and industriously he expressed himself in work for the benefit of his fellows, his real life was in his own spirit. I have known few men whose quest for truth and for an understanding of the deeper realities of life was more devoted and more continued. . . ."

Dr. Telling married Ingeborg, daughter of Julius Aagaard, professor of perspective in the Royal Academy of Copenhagen, and sister of Dr. Otto Aagaard, the distinguished urologist of that city. Mrs. Telling, two daughters and a son (Dr. Otto Maxwell Telling) survive him.

M. J. S.

G. F. W. writes:

The early and lamented death of Dr. Maxwell Telling deprives Leeds of a formidable and impressive public figure. Not only was he possessed of an imposing outward appearance but he combined within himself a rare combination of remarkable zeal and diligence together with a gracious, kindly, and urbane nature. If the latter aspect of his character was not always immediately evident it was merely hidden by the enthusiastic fervour with which he threw himself into any kind of work he found at hand. For many years he devoted himself with intense industry to the advancement of medicine in the West Riding of Yorkshire. He was a bold, resolute, and self-confident pioneer, and he advocated many reforms which are now so much incorporated in the Leeds medical tradition that it seems incredible they could ever be the subject of controversy. Dr. Telling was first and foremost an alert and learned physician, but his energies overflowed freely into all kinds of activities in philosophy, law, art, music, sociology, and mysticism. He was no amateur in these matters. Although he never enjoyed a complete and universal popularity, yet he was rightly and proudly well aware of his commanding position in medicine. Not only did he undertake an immense consulting practice in the North of England but his opinion was eagerly sought in forensic and psychological matters, and the prestige of his name was very great. In personal character he hid great kindliness behind a somewhat forbidding external manner, and many people looked upon him as harsh and brusque. He himself knew the whole range of human emotions, and he had many triumphs and many disappointments. But in joy or sorrow he walked erect and imperturbable.

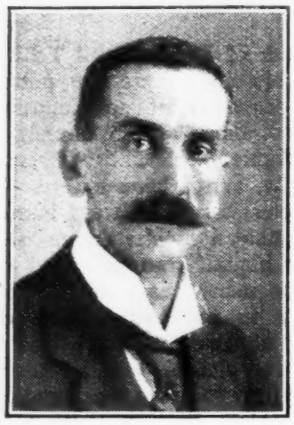
Dr. Alexander Muirhead writes:

Dr. Maxwell Telling was one of those men whom our profession can ill spare. While many of our leaders were declaring that no real advance was taking place in medicine because of the lack of an "undefinable something," Telling came forward boldly and declared that we were being held up because we had left God out of our lives. I first met Dr. Telling at a house party of the Oxford Group, with which he became associated in the later years of his life. He fearlessly adopted the standards of Jesus Christ, and whole-heartedly identified himself with what as a psychologist he described as "an ever-increasing body of skilled and devoted workers who accomplish the healing of psychologically tangled lives in a way which comes near to the miraculous." He lost no opportunity of stressing his conviction that the true basis of health was spiritual. He was always available to younger people, and ready to put all the resources of his rich experience at the disposal of those whom he felt were truly serving others.

PERCY FURNIVALL, F.R.C.S.

Consulting Surgeon to the London Hospital

Percy Furnivall, who died on May 3, aged 70, received his medical education at St Bartholomew's Hospital, qualifying in 1892. After holding house appointments he took the Fellowship of the Royal College of Surgeons of England in 1895, and in 1898 was awarded the Jacksonian Prize of the College, an honour of which he was always very proud. He was next elected assistant surgeon to St. Mark's Hospital for Diseases of the Rectum, and in 1899, a vacancy for assistant surgeon occurring at the London Hospital, he applied for and was elected to this post. His coming to the "London" was not too well received either by the honorary staff or by the students of the hospital, as there was in the field a strong candidate in a well-liked "Londoner," but the coldness of his reception was soon swept away by his geniality and friendliness. Furnivall rapidly identified himself with all the activities of his new hospital, and any idea that he was an "outsider" was quickly lost, and the London Hospital never had a better or more loyal stepson. An athlete himself, as a young man he was an English amateur cycling champion. He took a keen interest in the students' sports, and was one of the first to identify himself with all the activities of the recently formed Students' Club Union. It was also largely due to his efforts that the London Hospital Masonic Lodge was inaugurated.



As a surgeon he was accurate in diagnosis, bold in his conception of treatment, and fearless in carrying it out, but at the same time was a careful and safe operator. To his patients he was always kind and cheery and optimistic, and to the nursing staff invariably courteous and considerate. As a teacher Furnivall did not hold any post in the Medical College, but his clinical teaching in the out-patient department, in the wards and operating theatre, was excellent and much appreciated by the students. As might be expected of a Hunterian Professor of Pathology, he laid great stress on this subject, and grounded his opinions and his treatment on a firm pathological basis, and in the many articles he wrote this subject was always prominent. One of the traits that endeared him to the resident staff, and to his junior colleagues as he rose in the hospital service, was his unselfishness and his readiness to help the younger generation both in the hospital and when they were seeking appointments elsewhere. His house-surgeons were given plenty of work to do within their capacity, but such work was not given indiscriminately, for Furnivall was a shrewd judge of character and ability. A house-surgeon who did not reach a high standard was quickly shown that better work was expected of him before the full benefits of the appointment were allowed him, but if this standard was reached every chance and encouragement was given to a man to improve his knowledge and surgical skill.

Furnivall's geniality was almost a by-word with his colleagues, and his personality was always exerted for peace in those little frictions that always occur when a large body of men are working together. Never really a robust man, suffering always from insomnia and affected by the cold, Furnivall was frequently laid up with coughs and influenza, and finding his health deteriorating in London he resigned his appointment as surgeon to the hospital, and was at once elected a consulting surgeon in 1919. The whole hospital deplored the loss of a colleague and of a friend—the "stranger" of 1899 had become the personal friend of all in 1919, and he retired to the milder climate of Cornwall, carrying with him the good wishes of everyone who knew him. Furnivall continued to do some consulting work in the neighbouring country, and any "Londoner" visiting him was always sure of a warm welcome and a kindly store of reminiscences and stories.

The essential kindness of Percy Furnivall and his love of humanity (writes a colleague) were perhaps best shown in the publication of a diary of his experiences when suffering from the malignant disease which caused his death, and its treatment. This account,[1] pathetic as it is, especially to those who knew him, was not written to gain sympathy or notoriety, nor in any spirit of bravado, nor with any idea of scientific research or record, but solely with the idea of benefiting his fellow men. Rightly or wrongly, he formed the opinion that the treatment he had undergone had increased his suffering and made his passing more difficult, and he wished in his love for humanity to save others from a like fate. No medical man could read that diary unmoved, whether he agrees with its conclusions or not, but to those of us who knew him it is unspeakably pathetic, for Furnivall always enjoyed life in all its aspects. To his work and to his play he gave all that was in him and enjoyed the giving, and for him to write of his life, "Is it worth while?" showed the extent of his sufferings, although, as the diary reveals, he bore them with fortitude and even with hope. But even towards the end, still in pain and distress, with little hope left in life except continual pain, Percy Furnivall's medical judgment and outlook remained sane and sound. He did not condemn the modern treatment of malignant disease, he did not curse radium and turn his face to the wall and die, but asked for generous support for a continued intensive research into the effects of radium on the tissues and a careful consideration of all the factors of a case before deciding on its use. He felt as he taught in the years gone by: that pathological facts are a more sure basis for treatment than indiscriminate experiments on human beings. He asked for this research with the hope not only that others might escape his sufferings but that they might possibly be cured of the scourge of malignant disease. He only wished that the members of the profession he had served so well would be careful in the use of a remedy powerful in benefit but equally powerful to make the remedy worse than the disease.

Mr. H. S. Souttar writes:

It is difficult to realize that Percy Furnivall has gone. Indeed, it is difficult to think of him as anything but a man in the fullest prime of life, bursting with energy. I was a dresser to the firm of Eve and Furnivall in 1904, and I still see the tall gaunt figure in a great fur coat, smoking an enormous cigar, stepping out from one of the earliest of motor cars and striding into the hospital. Even then he was a figure of romance, and strange stories were told of how he had bicycled up to Cambridge in the morning, won an open mile bicycle race in the afternoon, and cycled back to London in the evening. He treated

[1] *British Medical Journal*, February 26, 1938, p. 450.

his dressers as younger brothers, and though his teaching was entirely unconventional it was full of sound common sense and admirable surgical judgment. His skill as an operator was quite exceptional, and there still remains in my memory his intense passion for asepsis. It was before the days of gloves, and after we had scrubbed up he would insist on snipping off a small portion of a nail from each dresser as well as from his own hand, all to be carefully cultured. The surgery of to-day has been reduced to an established routine, and surgeons themselves have become conventional, but it is pleasant to remember and to do honour to those who struck out boldly into a new and unknown field, and among them, for those who knew him, few would be remembered with higher regard and deeper affection than Percy Furnivall.

[The photograph reproduced is by Elliott and Fry, Ltd.]

F. L. PROVIS, F.R.C.S.Ed.

Mr. Francis Lionel Provis, who was well known for his work in the application of radiology to gynaecological practice, died on May 2 at the age of 65. The youngest son of the late Dr. Wilton Provis of Mere, Wiltshire, he was educated at Bromsgrove School and St. Bartholomew's Hospital, and in 1898 obtained the English Conjoint diplomas. He became M.R.C.P.Ed. in 1903, having been admitted a Fellow of the Royal College of Surgeons of Edinburgh in the previous year. He held the house appointment of resident medical officer at the Tottenham Hospital and was medical registrar at the Chelsea Hospital for Women. During the South African War he was on the staff of Lady Curzon's hospital unit, and was assistant physician to the Imperial Yeomanry Hospital at Pretoria. After the war he decided to devote himself to the study and practice of gynaecology. He was elected surgeon to the Chelsea Hospital for Women, and gynaecologist to the Italian Hospital; he was also surgeon accoucheur to the St. Pancras Dispensary and later to St. John's Hospital, Twickenham. He was for some time medical officer in charge of the venereal department of the Prince of Wales General Hospital. Mr. Provis contributed various papers on gynaecological and radiological subjects to medical periodicals and became widely known in connexion with modern gynaecological treatment and also with the research work relating to therapeutics of venereal disease. His sturdy independent outlook combined with scientific acumen and great clinical abilities rendered him prominent in his specialty, and he built up a large consulting practice in Harley Street.

Mr. Victor Bonney writes:

All those who are connected with Chelsea Hospital for Women will mourn the passing of Lionel Provis. He joined the hospital as registrar in 1902, became a member of the honorary staff in 1903, and for twenty-seven years did his utmost for it. He was early interested in the application of radiology to gynaecology, and is justly to be considered as one of the pioneers in that subject. He was a careful and conscientious surgeon and a gentle and humane man with a high sense of the responsibility he owed to his patients. His health broke down and compelled him to resign from the staff in 1931, but he did not entirely dissever himself from his work, and indeed continued it so far as he was able almost to the time of his death. He will be best remembered by those who had the privilege of working with him for his kindness of heart, his honesty, his contempt of everything savouring of jealousy or meanness, and most of all for the uncomplaining courage with which he bore his misfortunes.

EDMUND WILKINSON, F.R.C.S.,

Lieutenant-Colonel, I.M.S. (ret.).

Lieut.-Colonel Edmund Wilkinson died suddenly at his residence, Hornacott Manor, near Launceston, Cornwall, on May 1. Born in 1867 he received his medical education at University College and University College Hospital. He qualified as M.R.C.S. and L.R.C.P. in 1888, and after holding hospital appointments took the F.R.C.S. in 1892. In the Indian Medical Service he had a distinguished career as an epidemiologist and an authority on plague. He was Chief Plague Medical Officer and Sanitary Commissioner in the Punjab and Acting Sanitary Commissioner for East Bengal and Assam. He retired at the end of his period of service with the rank of lieutenant-colonel.

Sir Arthur MacNalty writes:

To a man of Wilkinson's energetic disposition and capacity for work a life of ease at home offered no attractions, and we were glad to welcome him as a medical inspector when he joined us at the Local Government Board in 1914. Here his plague experience proved invaluable not only in port sanitary work but also in connexion with precautions against the spread of that disease in East Anglia. During the war he rendered great service in promoting and securing liaison between the military authorities and the local authorities in the sanitary services for military camps and hospitals. Wilkinson could appreciate both the military and the civilian aspects of these problems and was able to reconcile interests which at times appeared to be conflicting. After the war, as a medical officer of the Ministry of Health, his time was chiefly occupied in port work and in the investigation of epidemic outbreaks.

Wilkinson retired from the Ministry in 1932. He went to live in his native county, Cornwall, where he was fully occupied in the administration of his estate and in many local activities. He was a good shot, a keen fisherman, and an ardent motorist, whilst any time he could spare from his many occupations was devoted to colour photography. At Hornacott Manor Colonel and Mrs. Wilkinson were always delighted to welcome old colleagues, and several of us have grateful memories of their kind hospitality. Wilkinson's life was a full one crowded with successful work and good deeds. One could never imagine him growing old. He has died as he would have wished without any premonitory change in his mental and physical powers.

A. W. NEILL, M.D.

Dr. Alexander William Neill, whose death occurred on May 2 at Oxford, at the age of 58, had been physician superintendent of the Warneford Mental Hospital, Oxford, since 1914. Dr. Neill was educated at George Watson's College, Edinburgh, and Edinburgh University. He graduated M.B., Ch.B. in 1905, and proceeded to the degree of M.D. in 1911. After holding resident posts in the Royal Infirmary, Edinburgh, Woodburn Sanatorium, and West Bromwich Hospital, he became senior assistant physician of the Royal Asylum, Edinburgh. He was an ex-president of the Royal Medical Society of Edinburgh. Dr. Neill was a member of the British Medical Association for nearly twenty years. He was secretary of the Oxford Division in 1922–3, and chairman in the following year. When the Association met at Oxford in 1936 he was responsible for the local arrangements in connexion with the Reception Room and Exhibition. In 1932 he served as president of the Oxford Caledonian Society. Dr. Neill

in his younger days took part in many forms of sport, being especially proficient at hockey and curling. He leaves a widow and two sons, the elder of whom is studying medicine.

Mr. J. F. Robinson, F.R.C.S., writes:

In the passing of Dr. Alexander Neill the profession in Oxford has lost a loyal and helpful colleague, and the Warneford Mental Hospital a very capable and just administrator. Besides his purely professional work at the hospital and his consultative work in the neighbourhood, he had a real genius for organization. The committee of the Warneford Hospital must be grateful for his wise direction and co-operation in the numerous schemes which he initiated to put the hospital on a sound foundation for the future. But it is not his achievements in this direction that I wish to emphasize: I leave that for others more fitted to describe and appreciate. To me the death of Neill is a personal loss. I knew him soon after he came to Oxford, and have been intimate with him ever since. His hospitality was lavish, and many medical men in this district will remember the jolly evenings we had at the Warneford right up to the time of his illness. He will be missed at the Medical Club (as distinct from the Oxford Medical Society), where his contributions to the discussions often brought us down from the unsubstantial clouds to solid earth. His kindness, loyalty, and common sense were his outstanding characteristics. I have often been to him for advice on divers occasions, and his broad view of things and man-of-the-world (in the best sense) outlook were of great value to me. He certainly had his share of trouble during recent years, but he was very reticent, and few would know what he suffered. His long recent illness was borne with the cheerful courage that was expected of him.

Dr. CYRIL PATRICK ANDREW STRANAGHAN, who practised for several years at Folkestone and Bournemouth, died on April 19. He retired from general practice nearly two years ago. A graduate of Edinburgh University, where he was an enthusiastic Rugby football player, he was later appointed house-physician at the Royal Infirmary, Sunderland. During the great war he served in France with distinction. He was a man of great personal charm and wide human sympathy, which, apart from his sound professional skill, endeared him to colleagues and patients alike. His brief period of retirement only helped to strengthen the deep affection in which he was universally held.

EVAN WILLIAMS RICHARDS, M.B.Ed., Ch.B., D.P.H. Glasg., died at his home in Newtown, Montgomeryshire, on February 23. He was for eleven years medical officer of health and schools medical officer for Montgomeryshire, and previously held a similar appointment for the borough of Port Talbot in Glamorgan. He had been a member of the Shropshire and Mid-Wales Branch of the British Medical Association for the past twenty-five years. Dr. Ivor J. Davies, physician to the Cardiff Royal Infirmary, writes: Dr. Richards took his degrees at Edinburgh in 1910 and acted as house-surgeon at the Cardiff Royal Infirmary for twelve months, and afterwards was in colliery practice at Abertridwr for three years, where he was much esteemed for his skill and lovable personality. He was one of the first of a brave band of general practitioners to assist in the rescue work at Senghenydd, where the worst explosion in the history of the coal industry occurred in 1913. I can well remember Richards's fine bearing just as he was about to descend the mine with a rescue brigade. He served throughout the war at the 3rd Western General Hospital, R.A.M.C.(T.), from the time of its establishment on the outbreak of war in 1914 to its closure in 1919. He was one of the best house-men the Royal Infirmary has ever had, and his war work was characterized by the same thoroughness and devotion to duty. Owing to an old disability Richards was unable to serve abroad, but he never spared himself in the work of a large territorial hospital, and was always ready to undertake extra work for a colleague. He will best be remembered for his fine temperament and sterling gifts of character, and was such as we would all wish to be: gentle in manner, patient in all his dealings yet unbending in what he believed to be right and true, and steadfast in faith. Those of us who were privileged to be his friends will always be inspired by the nobility of his character.

The death of Dr. KEPPEL BARRETT on April 21 has caused sincere grief in many homes in Kensington, where he practised for over forty years. Born at Grimstone in Norfolk, Alfred Keppel Barrett was the eldest son of the late Dr. A. E. Barrett and grandson of the late Rev. the Hon. Thomas Robert Keppel. He was a student of St. Mary's Hospital, Paddington, and qualified M.R.C.S., L.R.C.P. in 1891, a few years later succeeding to his father's practice. Dr. Barrett served on numerous committees and was a member of many societies, including the West London Medico-Chirurgical Society, the Society of Apothecaries, and was a Fellow of the Hunterian Society and secretary of the Kensington Branch of the Royal Medical Benevolent Fund. For many years he was a member of the Executive Committee of the Kensington Division of the British Medical Association and of the London Panel Committee. He was also treasurer of the Society of Members of the Royal College of Surgeons of England. He leaves a widow and five daughters, to whom the sincere sympathy of their numerous friends is extended. His loss will be greatly felt in Kensington, where his devotion to duty and genuine kindness to all in trouble endeared him to a large circle of friends and patients who will not easily forget him. The funeral service took place at St. Mary Abbots Church, which was very full, the congregation including a large number of medical men.

Sir MAURICE ABBOT-ANDERSON died at his home at Bath on May 3 after a short illness. The son of Major-General Abbot-Anderson, he was born in 1861 and studied medicine at University College, London, and at Newcastle-on-Tyne, graduating M.B., B.S. of Durham University in 1886 and taking the M.R.C.S. a year later. He was then in turn house-physician at University College Hospital and house-surgeon at the Salop Infirmary. Settling in general practice he was appointed many years ago physician to the late Princess Royal (Duchess of Fife) and her household. When she and her husband were shipwrecked in the liner *Delhi* in 1911 Abbot-Anderson went to Egypt to attend them, but the Duke of Fife died before his arrival. Abbot-Anderson was for some years honorary surgeon to the Farringdon General Dispensary and Lying-in Hospital, and honorary medical officer to the Housing Association for Officers' Families. For his services to the Duchess of Fife he was made M.V.O. in 1908 and received a knighthood in 1912; he was advanced to C.V.O. in 1925. After retirement he devoted much attention to organizations concerned with the preservation of the countryside and of ancient national possessions in England, Scotland, and Wales. He was a member of the National Trust, and founded Flora's League for the protection of wild flowers, ferns, and trees.

Dr. FREDERIC JAY COTTON, orthopaedic surgeon and a founder and regent of the board of governors of the American College of Surgeons, died of a heart attack at Boston on April 14, aged 68.

Dr. WILLIAM FRANKLIN ELGIN, associate of the late Major Walter Reed at the old Marine Hospital, Washington, and pioneer in vaccine development, died at Philadelphia on April 18 aged 76.

Universities and Colleges

UNIVERSITY OF LONDON

The following appointments to the Senate for the period 1938–42 are announced: Faculty of Medicine, Mr. W. Girling Ball, F.R.C.S., and Dr. A. M. H. Gray (reappointed); General Medical Schools, Professor L. S. Dudgeon (reappointed).

A course of three lectures on "Variation in the Response of Animals to Drugs" will be given at the Wellcome Institute for Medical Research, Euston Road, N.W., by Dr. J. W. Trevan, on May 23, 24, and 25 at 5.30 p.m. At the first lecture the chair will be taken by Sir Henry Dale, F.R.S.

Two special University lectures in anthropology, entitled "*Sinanthropus Pekinensis* and his Significance for the Problem of Human Evolution," and "*Sinanthropus Pekinensis* in Comparison with Other Fossil Hominids" will be given at University College, Gower Street, W.C., by Dr. F. Weidenreich, Visiting Professor of Anatomy, Peiping Union Medical College, and Director of the Cenozoic Research Laboratory, Peiping, on May 30 and June 1, at 5.15 p.m.

All the above lectures, which will be illustrated with lantern slides, are addressed to students of the University and to others interested in the subject. Admission is free, without ticket.

ROYAL COLLEGE OF PHYSICIANS OF LONDON

At the meeting of the College held on April 28 licences to practise physic were conferred upon the following 194 candidates (including sixteen women) who had passed the final examination in Medicine, Surgery, and Midwifery of the Conjoint Board, and have complied with the necessary by-laws:

J. C. G. Abraham, H. W. Adeney, R. S. Alexander, H. G. A. Almond, H. Alstead, J. Arnott, C. S. Ashwell, P. A. G. M. Assmann, A. H. Bacon, K. P. Ball, J. E. Barker, A. H. Baynes, J. P. Bentley, A. E. Beynon, R. D. Blachford, Janet E. Bottomley, H. W. Bradford, J. T. Brooks, R. W. W. Brown, W. G. Brown, C. N. Burnham-Slipper, F. J. Cahill, K. Chartikavanij, A. A. G. Clarke, P. Cohen, R. P. Coldrey, G. B. Collyer, R. Cox, E. Cronin, A. G. Cunningham, A. H. Cutting, J. R. G. Damrel, H. W. D'Arcy, T. T. Davies, C. H. C. Dent, L. J. D'Souza, A. P. Dick, Nancy K. Dick, A. E. Dreosti, W. J. Drummond, D. M. Dunn, D. F. Eastcott, J. E. B. Elliott, E. Ll. Ellis, G. H. Ellis, Winifred M. Emmet, R. L. Evans, C. G. Fagg, F. E. Falconer, D. B. Feather, D. W. Fell, B. S. Fishman, D. Foskett, G. P. Fox, A. L. Frazer, M. J. G. Furnell, D. Garcés, T. C. N. Gibbens, G. N. L. Godber, W. Goulstone, A. C. Greene, W. S. Hacon, R. B. Halford, A. S. Hall, I. M. Hall, W. G. L. Hall, R. G. Harcourt, J. B. Hargreaves, S. W. G. Hargrove, M. H. Harmer, J. Harris, Violet E. N. Harris, L. T. Harrison, N. W. A. Harvey, J. L. Henderson, Rosa Hertz, C. J. C. G. Hodson, S. J. Hopkins, Mary C. Hopper, E. P. Houghton, G. N. Hunt, Myrtle M. Hutchins, C. W. Iliffe, M. A. Imray, H. H. W. Jackson, K. V. Jackson, H. M. James, Ursula James, J. G. Jamieson, T. H. Jenkins, R. C. Jenkinson, P. H. Jobson, B. M. Joffe, G. B. Jones, G. M. Jones, H. M. R. Knight, H. Knowles, Henny E. Kornerup, C. C. Lack, J. Laughlin, S. C. Lavine, H. W. D. Lawton, G. B. Leyton, M. A. Linell, G. M. Little, B. G. B. Lucas, R. L. McKernan, R. J. H. McMahon, B. Maddison, D. W. Mahon, R. H. C. Manifold, C. W. S. Marris, A. G. Marshall, R. A. Mathews, C. M. Miller, W. G. Mills, Agnes M. D. Milne, L. E. Milton, G. W. Miskin, P. L. Mollison, H. E. Moody, J. Moroney, D. Morris, D. S. Morris, D. D. Muir, G. M. Müller, M. Murray, J. L. Newton, R. T. Norman, J. P. J. O'Keefe, Eileen B. Palmer, G. F. Panton, R. L. Parkinson, S. M. Paw, J. G. Peacock, H. G. Percy, R. Piper, S. S. F. Pooley, A. S. Porter, K. R. D. Porter, Dorothy M. Pritchard, R. H. Roberts, Hilda M. Robertshaw, L. F. W. Salmon, C. R. Savage, I. R. Seal, J. D. Sellars, J. N. Sen Gupta, W. M. H. Shaw, M. Shepherd, J. E. Simpson, M. A. Slee, J. H. Smart, D. J. N. Smith, J. W. Smith, P. M. Smythe, S. G. Solomon, M. S. C. Stephens, C. J. Stewart, F. E. Stock, S. D. Stone, W. P. B. Stonehouse, B. D. Stutter, J. E. Symondson, J. McD. Teasdale, A. M. Thomas, D. C. Tomlins, P. Tomlinson, R. A. R. Topping, Vasant H. Trivedi, P. E. R. B. Unwin, J. R. M. Vance, F. H. Vieyra, O. M. Vyas, A. P. B. Waind, A. C. R. Wakeman, A. J. Walker, Betty Walker, J. O. Walters, A. J. Walton, J. W. Warrick, J. S. F. Watson, B. G. Wells, R. J. Whiting, E. G. Wilbraham, D. R. P. Wilkie, T. G. Williams, D. S. Wilson, G. A. Wilson, M. McC. Wilson, J. W. Wood, Ursula W. Wood, P. J. Wormald, C. F. Wright.

Diplomas

The following diplomas were granted, jointly with the Royal College of Surgeons of England, to the following candidates:

DIPLOMA IN TROPICAL MEDICINE AND HYGIENE.—W. J. Alkan, L. G. Backhurst, N. D. Bakhash, E. A. Beet, J. Bennet, R. S. Bunny, M. S. David, P. L. Deshmukh, E. P. N. M. Early, R. N. Fowler, V. A. Gupte, W. E. Hadden, R. F. Hand, I. M. Hill, F. Abd-ul-Karim Kandalla, E. N. C. McAmmond, I. W. MacKichan, J. G. Mar, J. S. Minett, S. K. Mukherjee, V. R. Naidu, Sharda S. Naidu, L. Nandkeolyar, A. R. Pons, S. Ram, V. D. Seevaretnam, D. K. Shah, H. B. Shookhoff, W. M. Toone.

DIPLOMA OF ANAESTHETICS.—G. M. Benton, H. Berelowitz, R. J. Clausen, A. A. Dewar, E. N. H. Gandavia, Florence M. Hughes, S. Hutchinson, A. G. Macleod, H. H. Markham, O. L. C. Sibley, J. Stirling.

Diplomas in Child Health were granted, jointly with the Royal College of Surgeons of England, to the twenty-three candidates whose names were printed in the report of the meeting of the Council of the Royal College of Surgeons of England in the *Journal* of April 23 (p. 929).

Medical Notes in Parliament

The House of Commons this week discussed the Air Estimates and the increase of British air armaments. Progress was made with the Housing (Rural Workers) Amendment Bill, the Administration of Justice (Miscellaneous Provisions) Bill, and other measures.

Progress of Bills

In the House of Lords on May 10 the Prevention and Treatment of Blindness (Scotland) Bill and the Hire Purchase Bill were brought from the Commons and read a first time. The Increase of Rent and Mortgage Interest (Restrictions) Bill passed through committee.

The Earl of Onslow presided at a meeting of the Joint Committee of both Houses of Parliament on the Food and Drugs Bill in the House of Lords on May 10. Among the clauses considered were those dealing with the sale of unsound food and the control and licensing of slaughterhouses. The Committee adjourned until May 11. Sir Francis Fremantle is a member of this Joint Committee.

The Bakehouses Bill was reported with amendments from a Standing Committee of the House of Commons on May 5. Its title has been changed to the Baking Industry (Hours of Work) Bill.

The Hire Purchase Bill was read a third time in the House of Commons on May 6.

The Eire (Confirmation of Agreements) Bill was read a second time in the House of Commons on May 5.

In the House of Commons on May 10 Mr. Foot presented the Local Authorities and Local Government Officers (Joint Councils) Bill, which makes provision for the constitution of joint councils of representatives of local authorities and officers and servants of such authorities.

Cost of School Health Services

On May 2 Mr. T. MORRIS asked the Parliamentary Secretary to the Board of Education the total of the grants paid by the Board to local education authorities and voluntary institutions in respect of health services for school children. Mr. KENNETH LINDSAY said the special services for elementary school children included medical inspection and treatment, special schools, organization of physical training, play centres, nursery schools, and provision of meals. On the basis of the provisional figures for 1936–7 forwarded by local education authorities the grant payable to these for that year—50 per cent. of their expenditure—was approximately £2,668,000 in respect of these special services. Grants to voluntary bodies for special schools, play centres, and nursery schools in 1936–7 amounted to £55,136.

Extension of Medical Benefits

On May 3 Mr. D. ADAMS asked whether the Government was considering measures, financial or administrative, to extend the scope of medical benefits to include consultant, specialist, and pathological services so that a more fundamental attack on health problems might be made. Mr. BERNAYS said that important matters of finance and administration were involved,

and the Minister could not undertake to make any pronouncement on the subject, which would have to be considered at the proper time in relation to the general financial resources of the country.

Mr. ADAMS asked whether, in view of the admitted necessity for further action on the lines of the question, the Parliamentary Secretary intended to give it further consideration. Mr. BERNAYS said that the question was largely concerned with insured persons and was largely a matter of accommodation in hospitals set up for special diagnosis and treatment of disease under the Local Government Act, 1929. The number of those hospitals was steadily increasing.

Rheumatism: Facilities for Treatment

On May 3 Mr. D. ADAMS asked what State facilities were provided for the treatment of rheumatism, and what extensions of these facilities were being considered. Mr. BERNAYS replied that facilities for the treatment of this group of diseases were provided by most general hospitals and by a number of specialized voluntary institutions. Local authorities were increasingly making provision for the treatment of acute rheumatism in children. The medical advisers of the Ministry of Health were in close co-operation with the bodies concerned with combating and with research into rheumatic diseases. Mr. DE LA BERE asked if the Minister had ever heard of the Droitwich Spa treatment.

Hospital Trust Deeds and Taxation

When Budget resolutions were debated on report on May 4 the House of Commons agreed without debate to the resolution increasing the standard rate of income tax to 5s. 6d. in the £. Subsequent resolutions were discussed and approved. In a discussion on the provisions of the Budget as regards settlements Mr. BENSON said scarcely an institution which depended on public subscriptions but printed seven-year trust documents and distributed them broadcast. If a surtax payer paying a full rate made an annual donation of £100 to some institution under one of these seven-year trusts it cost the Government £70 a year and the donor £30. Why should the Chancellor of the Exchequer be compelled to subscribe to any particular institution or charity?

Sir TERENCE O'CONNOR, the Solicitor-General, said Mr. Benson's suggestion would spread alarm and despondency among charitable institutions in this country. The root of the present law was that charities were treated as an exception and were exempted from the ordinary provisions of the Income Tax Acts. They were entitled to ask that taxes which had been paid on such incomes should be paid back. Anything which would vary that position would not be acceptable. Sir Terence said Mr. Benson had complained that he could not understand why a man should be entitled to make a settlement under which he undertook to pay to a particular hospital a sum of money over a series of years and why the hospital should be entitled to claim back the income tax which had been deducted. Sir Terence contended that it would be disastrous to charities if Parliament now altered the favoured position which they enjoyed.

The House approved the resolution dealing with settlements. An amendment tabled by Mr. Benson which specified hospitals was not called. Other resolutions were also approved, and the Finance Bill, based upon the Budget resolutions, was brought in and read a first time.

Prevention and Treatment of Blindness in Scotland

The Prevention and Treatment of Blindness (Scotland) Bill passed through report and third reading in the House of Commons on May 6. During the report stage an amendment was inserted to ensure that any scheme prepared by a local authority under the Bill must be subject to the sanction of the Department of Health for Scotland. Mr. ALLAN CHAPMAN and Mr. GARRO JONES, in moving and seconding this amendment, explained that it was to limit the provision of the Bill entitling local authorities to take such measures as they thought would assist in the prevention of blindness. Mr. Garro Jones said some local authorities, acting in advance of the Statute, had interpreted the provisions of this Bill as much wider than were intended, and had invested themselves with power to bring pressure upon blind persons to prevent their marriage if the medical officer of health thought that such a marriage would be undesirable.

Rural Housing Improvements

In the House of Commons on May 9 Sir KINGSLEY WOOD moved the second reading of the Housing (Rural Workers) Amendment Bill, which, he said, extended the operation of the original Acts for four years, up to September 30, 1942. Experience gained in administering the Acts showed that houses of good quality were being provided. In communicating with the local authorities he would ask district councils to ascertain themselves what cottages needed reconditioning and, where the owners were unwilling to do the work, to consider exercising their powers to buy the cottages and themselves recondition them. Where the county council was the authority lists of cottages requiring reconditioning would be sent to it.

Mr. GREENWOOD urged that there should be guarantees for the improvement of administration. Something should be done to establish proper standards of accommodation and amenities.

Sir FRANCIS FREMANTLE said that the Bill was a small measure but should not be belittled for that reason. It meant everything to the tenants of the houses concerned. There was a danger that local authorities, not understanding their responsibilities, might make grants for keeping alive and reconditioning houses which were not worthy to be reconditioned. He spoke very strongly on that point as an old county medical officer of health. Rural housing was one of the subjects on which medical officers of health were very keen. The county medical officers of health, through their association, were very much in favour of the rural housing Acts and of this Bill, but they were anxious that much more control should be exercised. The medical officer of health for Devon had given the association a good account of the working of the Acts in his county, and the association would like to see this state of affairs spread to other counties. There were many good houses built in the middle of the last century which were quite capable of being improved.

The Bill was read a second time.

The B.M.A. and the Matrimonial Causes Act

In the House of Commons on May 9 Sir DONALD SOMERVELL moved the second reading of the Administration of Justice (Miscellaneous Provisions) Bill, which has passed the House of Lords. During the discussion Mr. A. P. HERBERT mentioned two points arising under the administration of the Matrimonial Causes Act, which Parliament passed last year, and in regard to which people, he said, complained that in certain respects the intentions of Parliament were not being carried out. The first point was with regard to the provision which gave a right to sue for a dissolution of marriage where the co-respondent had been of unsound mind for five years. During the debates on the Act last year a great deal was heard from doctors about the possibility or doubtfulness of a doctor being able to say in every case that a person was incurably insane, but now the British Medical Association, in a recent report, had raised two new points. The *British Medical Journal* stated:

"The Council has considered the ethical position of the medical man in charge of an insane patient when approached for an opinion by a prospective petitioner, and the legal position of the medical man in the event of a patient whom he has stated to be incurably of unsound mind subsequently recovering. The Council is advised that any opinion expressed by the medical practitioner as to the patient being of unsound mind would not be covered by the protection given under the Mental Treatment Act or the Lunacy Act; that the safest course would be for the practitioner to decline to express any opinion save by the direction of the court, but that he might place his records of the case at the disposal of an independent medical expert nominated by the petitioner. As regards the ethical aspect of the problem, the Council considers that the medical man responsible for the care of the patient would not

be justified in giving an opinion except at the express direction of the court. The adoption of this attitude would, however, make the Act unworkable, and the Council feels that the most satisfactory way out of the difficulty would be the introduction of amending legislation. . . ."

He (Mr. Herbert) would not go further into the matter. He was not trying to raise any controversial point. He was merely suggesting that it might be that the intentions of the Act were not being carried out, and if there was any way by which this matter could be put right he would be glad.

The other point was that there were many cases in which the husband or wife had been deserted, and when the case came before the court they found that through the fault of the magistrate some years ago—not through any fault of Parliament—who quite unnecessarily and wrongly inserted in the separation order what was called a non-cohabitation clause, they were not entitled to divorce. He suggested that the Law Officers should consider the question.

The Bill was read a second time.

Birmingham Mental Home: Inmate Attacked.—Mr. RHYS DAVIES asked on May 5 whether the attention of the Minister of Health had been drawn to the case of a Birmingham mental home in which two drunken attendants were fined for attacking and beating an inmate while a third stood by and encouraged them; and whether he would call for a report on the conduct of that institution. Sir KINGSLEY WOOD replied that his attention had been drawn to this case and the prosecution was instituted at the instance of the Board of Control, the persons in question having previously been instantly dismissed. He had before him a report made by two Commissioners of the Board who inspected the institution on March 23 and 24. They reported favourably upon its administration and upon the care and treatment of the patients.

British Spas and Publicity.—In an answer on May 5 to Mr. Ivor Guest, Sir KINGSLEY WOOD said opportunity had been taken in the annual report of the Chief Medical Officer of the Department for the year 1935 to draw attention to the excellent work of British spa hospitals and to the value of British spas. The British Spas Federation, working in co-operation with the Travel and Industrial Development Association of Great Britain and Ireland, which had been approved by him under the Local Authorities (Publicity) Act, 1931, was making every effort to popularize British spas at home and abroad.

Diphtheria Mortality.—On May 5 Sir KINGSLEY WOOD furnished Sir Arnold Wilson with the following figures of the deaths from diphtheria of children under 15 in England and Wales: in 1933 there were 2,487 deaths; 1934, 3,826; 1935, 3,256; and 1936, 2,884.

Notes in Brief

Sir Samuel Hoare hopes, immediately before or after the Whitsuntide recess, to introduce legislation to cover young persons employed in unregulated occupations.

In 1937 the Stoke Panel of the Silicosis Medical Board granted, on applications from the pottery industry (practically all from North Staffordshire), 42 death certificates and refused 6. It granted in the same year 38 disablement certificates and refused 47. For the year 1936 the comparable figures were 42, 6; 38, 47.

When an opportunity occurs for amending legislation Sir Samuel Hoare will consider whether the period of one year after a worker has ceased to be employed in a lead process should be extended to five years as that within which a claim for compensation can be made.

The Interdepartmental Committee on Nursing Services has in mind that it may be desirable to issue an interim report.

No cases of small-pox have been reported recently amongst British troops in Hong Kong.

The English-speaking medical unit in China has set up its headquarters at Changsha, and is working in close contact with the Chinese Government health administration.

Medical News

The King has approved the recommendation of the Home Secretary that, from June 1, Dr. J. C. W. Methven be appointed one of H.M. Commissioners of Prisons, in the place of Dr. W. Norwood East, who will retire on that date.

Dr. Percy Stocks will read a paper on "The Effects of Occupation and of its Accompanying Environment on Mortality" before the Royal Statistical Society at the Royal Society of Arts, John Street, Adelphi, W.C., on Tuesday, May 17, at 5.15 p.m.

A meeting of the Medico-Legal Society will be held at 26, Portland Place, W., on Thursday, May 26, at 8.30 p.m., when an address will be given by Dr. L. A. Weatherly on "Debatable Medico-Legal Episodes in my Days Before Yesterday."

The next quarterly meeting of the Royal Medico-Psychological Association will be held at 11, Chandos Street, W., on Friday, May 20, at 2.30 p.m., when papers will be read on "The Alleged Inadequacy in Numbers of Medical Officers in Mental Hospitals." A discussion will follow.

The thirty-ninth annual meeting of the Lebanon Hospital for Mental Diseases will be held at the Cora Hotel, Upper Woburn Place, W.C., on Tuesday, May 17, at 4.45 p.m. The speakers include the President (Dr. Percy Smith), Sir Hubert Bond, M.D., Senior Commissioner of the Board of Control, and Dr. Sérin (Paris).

On Thursday, May 19, at 5.30 p.m., a conference will be held at the Caxton Hall, S.W.1, to inaugurate the work of the Marriage Guidance Committee. This is a voluntary body which has been established for the purpose of providing practical help and advice on problems connected with marriage and the family. The conference will be attended by representatives of different professions, and medical practitioners who are interested in the subject of preparation for marriage are invited to be present. The secretary of the committee is Mrs. M. C. Hume, 13, Wildwood Road, N.W.11.

The Swiss Society of Surgery will hold its twenty-fifth annual meeting from May 20 to 22 at Berne under the presidency of Professor Q. Jentzer of Geneva. The chief subject for discussion will be neuro-surgery. Further information can be obtained from Professor F. Merke, Medizinische Facultät, Basle.

We are informed that the clinical meeting of the Society of Radiotherapists, which was to have been held at the rooms of the Medical Society of London, is now to be held at the Middlesex Hospital. There is no change in the date (Friday, May 20, at 5 p.m.).

The Medical Research Council has appointed Dr. Karl Stern to the Kathleen Schlesinger Research Fellowship for the year 1938–9. The Fellowship is provided from a fund established by the late Mr. Eugen M. Schlesinger and Mrs. Schlesinger in memory of their daughter; it is given for investigations of cysts of the brain or allied conditions, and is ordinarily tenable at the National Hospital for Diseases of the Nervous System, Queen Square, London.

Queen Mary opened the new out-patient department of the Mildmay Mission Hospital, Bethnal Green, E., on May 6, and afterwards inspected the hospital.

A bronze bust of the late Sir Grafton Elliot Smith, by Mr. A. H. Gerrard, was unveiled on May 4 in the Thane Library in the medical science building at University College, London.

On April 24, the seventieth anniversary of her birth, a monument to Mme Curie was unveiled in Roosevelt Park, Raritan Township, New Jersey, U.S.A.

A tour will be organized at Whitsuntide by the Société Médicale du Littoral Méditerranéen from June 2 to 10, visiting Nice, Cannes, Peiracava, Roquebrune, Ajaccio, Bastia, and Turin. Scientific meetings and demonstrations will be held in various places. Full details may be obtained from the Secretary of the Society, Rue Verdi 24, Nice.

No. 17

INFECTIOUS DISEASES AND VITAL STATISTICS

We print below a summary of Infectious Diseases and Vital Statistics in the British Isles during the week ended April 30, 1938.

Figures of Principal Notifiable Diseases for the week and those for the corresponding week last year, for : (a) England and Wales (London included). (b) London (administrative county). (c) Scotland. (d) Eire. (e) Northern Ireland. Median values for the last 9 years for (a) and (b).

Figures of Births and Deaths, and of Deaths recorded under each infectious disease, are for : (a) The 126 great towns (123 in 1937) in England and Wales (including London). (b) London (administrative county). (c) The 16 principal towns in Scotland. (d) The 13 principal towns in Eire. (e) The 10 principal towns (9 in 1937) in Northern Ireland.

A dash — denotes no cases ; a blank space denotes disease not notifiable or no return available.

Disease	1938					1937 (Corresponding Week)					1929-37 (Median Value Corresponding Weeks)	
	(a)	(b)	(c)	(d)	(e)	(a)	(b)	(c)	(d)	(e)	(a)	(b)
Cerebrospinal fever	32	6	10	2	1	30	3	14	1	1		
Deaths		1	1				1	2				
Diphtheria	1,055	130	213	38	27	1,019	148	183	11	26	997	167
Deaths	26	2	3	3	1	30	3	2	2	1		
Dysentery	37	12	36		—	14	2	16		—		
Deaths			—	—	—			—	—	—		
Encephalitis lethargica, acute	7	1	—		—	5	1	1		—		
Deaths		—	3				1	—				
Enteric (typhoid and paratyphoid) fever	20	1	7	4	1	26	3	2	10	2	27	—
Deaths	—	—	—	—	—	—	—	—	—	—		
Erysipelas		3	73	5	5		—	65	7	6		
Deaths			1					2				
Infective enteritis or diarrhoea under 2 years												
Deaths	37	10	7	4	2	48	12	9	7	5		
Measles			656		22*			211		2		
Deaths	35	7	27	1	1	18	—	3	—	—		
Ophthalmia neonatorum	121	17	27		—	102	10	29		2		
Deaths												
Pneumonia, influenzal‡	1,270	72	9	1	8	856	66	12	5	8	949	88
Deaths (from Influenza)	63	8	2	1	—	33	3	6	2	2		
Pneumonia, primary			275	3				170	11			
Deaths		19		22	13		21		19	12		
Polio-encephalitis, acute	1	—				1	—					
Deaths		—					—					
Poliomyelitis, acute	5	—	—		—	2	—	—		—		
Deaths		—	—				—	—				
Puerperal fever	1†	1	10	3	—	38	5	23	1	2		
Deaths		—					—					
Puerperal pyrexia	181	20	19		3	98	14	29		3		
Deaths												
Relapsing fever	—	—	—		—	—	—	—		—		
Deaths			—					—				
Scarlet fever	1,936	178	353	75	79	1,628	155	325	83	32	1,702	262
Deaths	4	2	1	2	—	3	—	—	1	—		
Small-pox	—	—	—		—	—	—	—		—		
Deaths	—	—	—	—	—	—	—	—	—	—		
Typhus fever	—	—	—	—	—	—	—	—	—	—		
Deaths			—	—	—			—	—	—		
Whooping-cough			89		17			393		10		
Deaths	12	2	2	1	2	18	4	18	—	—		
Deaths (0-1 year)	338	47	81	28	28	377	80	90	34	25		
Infant mortality rate (per 1,000 live births)	56	39				62	66					
Deaths (excluding stillbirths)	4,874	884	637	180	164	4,499	921	620	230	174		
Annual death rate (per 1,000 persons living)	12.0	11.1	13.0	12.2	14.5	11.2	11.5	12.7	15.7	16.7		
Live births	7,333	1,284	1,061	348	284	6,598	1,240	1,006	409	237		
Annual rate per 1,000 persons living	18.0	16.2	21.7	23.5	25.2	16.4	15.4	20.6	27.9	22.7		
Stillbirths	300	40				284	46					
Rate per 1,000 total births (including stillborn)	39	30				41	36					

* 18 cases in Belfast alone.

† After October 1, 1937, puerperal fever was made notifiable only in the Administrative County of London.

‡ Includes primary form in figures for England and Wales, London (administrative county), and Northern Ireland.

EPIDEMIOLOGICAL NOTES

Enteric Fever

Notifications of enteric fever in England and Wales have dropped from 21 in the previous week to 20 in the week under review: of these there was 1 case in the county of London. During the week under review 1 case of paratyphoid fever was reported at Cardiff, and the outbreak appears to be under control. Of the 7 cases notified in Scotland, 4 were of typhoid fever in Glasgow and 1 in Perth and Kinross county; the remaining 2 cases notified were: 1 of paratyphoid fever in Ross and Cromarty, belonging to the outbreak reported in these columns last week, and 1 of paratyphoid fever notified in Roxburgh county; but it has since been shown that this case notified as paratyphoid was in fact the first case of an outbreak of typhoid fever involving 55 cases at the time of going to press—53 in Hawick and the remaining 2 (1 each from Riccarton and Newcastleton) in the southern part of the county. The case at Newcastleton is a boy of 13 years who goes to school at Hawick. So far the source of the infection has not been ascertained.

Diphtheria and Scarlet Fever

The notifications of diphtheria remained about the same as in the previous week in England and Wales and Northern Ireland, while they showed an increase in Scotland and a decrease in Eire. In London a decided drop was observed. Compared with the median value for the corresponding week in the last nine years there was a marked decrease in the figures for London, while for England and Wales there has been an increase. Notifications of scarlet fever for England and Wales showed an increase over those of the previous week, and both are considerably in excess of the median value for the last nine years. A slight increase has been noted in London, but the figures remain well below the median value. In Scotland and Eire decreases were noted, while in Northern Ireland there was a slight increase.

Primary and Influenzal Pneumonia

During the two previous weeks and the week under review the deaths from influenza in England and Wales have been 52, 56, and 63 respectively, and the figures in London 4, 6, and 8 respectively. A considerable increase in the notifications of primary and influenzal pneumonia has been observed in England and Wales, the figures for the last three weeks being 847, 1,212, 1,270 (week under review) respectively, while in London the numbers have remained almost stationary—70, 79, and 72 respectively. As the Registrar-General's returns do not differentiate between primary and influenzal pneumonia it is not possible to state which is responsible for the increase. The rise in the number of deaths from influenza suggests that it is on the increase, and we are informed that there has been a rise in the incidence of primary pneumonia, particularly in Yorkshire. The increase in England and Wales is due mainly to local outbreaks in the Midlands and the West Riding (Yorks). During the week under review there were 115 notifications of pneumonia in Warwickshire, of which 91 were in Birmingham, and in the West Riding there were 165 notifications, of which 56 were in Sheffield and 35 in Leeds. In Scotland there has been no increase in influenzal pneumonia, but a pronounced rise in the notifications of primary pneumonia, the figures for the last three weeks being 191, 213, and 275 (week under review) respectively.

Measles

In the 126 Great Towns in England and Wales there were 35 deaths from measles, compared with 40 in the previous week; of these 7 (4) occurred in London, 3 (4) in Kingston-upon-Hull, and 2 each in Croydon (0), Leyton (0), Sheffield (0), and Plymouth (2). The figures in parentheses refer to the numbers in the previous week. Although the epidemic of measles in London continues to abate a large increase in cases was reported from the L.C.C. elementary schools—1,825, compared with 996 in the week ended April 16. The average daily admissions to the L.C.C. fever hospitals were 60, the same as in the previous week, while the number of cases under treatment in these hospitals on April 29 was 1,975, compared with 2,123 on April 22 and 2,220 on April 15. On the same day there were under treatment in the L.C.C. fever hospitals 1,132 (1,140) cases of diphtheria, 775 (802) of scarlet fever, and 287 (279) of whooping-cough. The figures in parentheses refer to the numbers recorded in the previous week. Notifications in the eleven metropolitan boroughs in which measles is notified were, for the week ended April 30, 581 (719), distributed as follows: Battersea 69 (87), Bermondsey 37 (58), Finsbury 24 (23), Fulham 53 (55), Greenwich 121 (103), Hampstead 20 (22), Lambeth 86 (158), St. Pancras 53 (74), Shoreditch 29 (32), Southwark 50 (63), Stepney 39 (44). In Scotland 656 cases of measles were recorded, compared with 798 and 724 respectively in the two preceding weeks: the figures for Glasgow were 304 (175), Dundee 126 (295), Aberdeen 94 (190), Edinburgh 65 (74), Falkirk 11 (39). The figures in parentheses refer to the numbers in the previous week. During the week under review there were 27 deaths from measles in the 16 principal towns in Scotland, compared with 24 and 33 respectively in the two previous weeks. Of the 27 deaths, 11 occurred in Glasgow, 6 in Dundee, 4 in Aberdeen, 2 in Paisley, and 1 each in Edinburgh, Motherwell, Coatbridge, and Kilmarnock. In Northern Ireland there were 22 cases of measles—18 in Belfast and 4 in Portrush—and 1 death in Portadown. During the week there was 1 death from measles in Eire (in Dublin).

Typhus

The epidemic of typhus in Algeria appears to be abating, there being 35 cases in the week ended April 16 compared with 56 reported for the previous week and 82 in the week ended April 2. Of the 35 cases there were 6 at Oran and 4 at Algiers. In the week ended April 23 198 cases of typhus were reported in Morocco and 16 deaths, compared with 243 cases and 19 deaths in the previous week. Of the 198 cases there were 64 at Marrakesh, 54 at Chaouia, and 20 at Rabat. During the same week in Egypt there were 149 cases with 22 deaths, compared with 130 cases and 11 deaths in the previous week. The largest number occurred at Qena, where 40 cases were reported, Beheira 22 cases, Giza 16 cases, and Minufiya 15 cases. During the same week there were 25 cases of typhus in Tunisia, compared with 32 in the previous week: 16 in Bizerta, 2 each at Suk-el-Arba, Tunis, and Susa, and 1 each at Le Kef, Gabes, and Military Hospital.

Yellow Fever in Nigeria

The diagnosis in a suspected fatal case of yellow fever (notified on April 23) at Keta in a European has since been confirmed.

During 1937 notifications were received of 19 cases of yellow fever in Nigeria. The following table gives an analysis of the cases:

	Total cases	Died	Recovered	Proved*	Not proved*
African	5	4	1	5	—
European	10	6	4	8	2
American (white) ..	4	2	2	4	—
Totals	19	12	7	17	2

* Proved pathologically or by protection test.

Letters, Notes, and Answers

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QUERIES AND ANSWERS

Alopecia

"R. J. C." writes: A male patient aged 40, in excellent general health and without any relevant disease of the scalp, is suffering from falling of the hair (defluvium capillorum). A year ago he had a luxurious growth of hair. Is any treatment known that will prevent the remaining hair from falling and promote renewed growth of the hair that has already fallen?

An Internal Sanitary Pad

"Q. Y." writes: In these days of general interest in the National Physical Fitness Campaign, I feel that many of us would welcome an expert gynaecological criticism of the much-advertised internal sanitary tampon. As a woman general practitioner I am frequently asked about this method of sanitary protection, and, as in the case of your other correspondents, hesitate to recommend it. It seems to me that the advantages are more than outweighed by the disadvantages. Apart from the obvious objection, both psychological and mechanical, to its use in the virgin, and its insufficiency in cases other than those of oligomenorrhoea, surely it is reasonable to suppose that the resultant obstruction to free drainage may lead to infection. Less likely, but nevertheless worthy of note, is the possibility of rectal stasis and partial urethral obstruction from pressure. I would be grateful for other opinions on this method, which appears to me contrary to all we have been taught about the hygiene of menstruation.

Painful Uraturia

Dr. I. P. MYERS (Brighton) writes: A patient of mine, a male aged 36 and unmarried, was suddenly seized with violent pain in the left loin, which was referred to the abdomen and down the left ureter and associated with vomiting. His temperature was 99° F. In the next six hours the pain increased in intensity, but the urine was clear and there was no haematuria. His abdomen became very distended and the vomiting persisted. He was removed to a nursing home, where investigation revealed no abnormality in the bladder, ureter, or kidneys. As the patient still had severe pain and distension, exploratory laparotomy was undertaken. At operation an acute condition of the pancreas was found with evidence of old-standing pancreatic fibrosis. The pancreatic tract was drained through the gall-bladder, and after three weeks he made an apparently good recovery. The patient was a stout man and very active. He did not lose much weight and went on very well for one year. The urine was normal, containing no sugar, albumin, or casts. He has since had two similar attacks, which are so severe as to require the administration of morphine, and each attack is associated with the passing of large quantities of urates. An attack ends dramatically, one specimen of urine being loaded with urates while the next is clear and normal in every way. Dietetic treatment and total abstention from alcohol do not seem to modify the condition in any way. I have tried diuretin (Knoll), two tablets every four hours during the attack, and I imagined that one attack was aborted by this means, but similar treatment in the last two attacks has failed to give relief. I would welcome any advice or suggestion.

Income Tax

Income from Abroad

"G. S." says that his wife has some Indian shares, and Indian income tax is deducted from the dividends. He is being assessed to United Kingdom income tax also. Is this correct?

*** Yes—income tax is payable in both countries, but "Dominion Income Tax Relief" is allowable from the tax assessed in this country. "G. S." should inform the inspector of taxes that he claims that relief, and should forward the dividend counterfoils as certificates of payment of the Indian tax.

LETTERS, NOTES, ETC.

Vitamin Therapy and Uterine Function

Dr. ERIC KENDERDINE (Coventry) writes: It may be of interest to record the contrast between two very dissimilar labours of the same patient. The first terminated at seven months in a labour lasting twenty-two hours. The baby weighed 5 lb. and did not survive; the pains were severe throughout. In the second pregnancy vitamin E was administered to avoid another early termination, and at the eighth month calcium and vitamins A and D were also given. The second labour was heralded by a loss of clear mucus at 3 p.m. and pink-stained mucus at 6 p.m., there being no information as to when the membranes ruptured. The first recognizable pains came on at 7.40 p.m., when the patient went to bed. An 8-lb. baby was born naturally under an anaesthetic at 9.20 p.m. This case would seem to show the beneficial effects of the vitamins concerned in improving uterine function; both placentas and both presentations were normal.

Treatment of Bacillary Dysentery

Dr. F. G. CAWSTON (Durban, S. Africa) writes: For speedy relief and an early return to normal it would be difficult to find a better treatment for bacillary dysentery than sodium sulphate in 15-grain doses two-hourly, just flavoured with peppermint. I was glad to have the opportunity of treating a colleague's wife in this way recently, thus avoiding the frequent purges to which Dr. Frank McCay refers (*Journal*, February 26, p. 488). This method proved useful in dealing with cases among the troops at the Roberts Heights cantonments in 1917.

Injections—A Protest

"X. Y. Z." (London, W.) writes: It is time that someone protested against the prevailing fashion of injecting drugs which could just as well be given by the mouth. I know of one man who seldom gives a drug by the mouth if he can use a needle. Even for an ordinary "cold" or mild influenza in goes the needle. A patient of my own recently fell into the hands of one of these "injectors." There was no improvement in her condition, but several abscesses made her a sadder but a wiser patient. In one recent case death from septicaemia followed a hypodermic injection into the thigh. Again, why should sulphanilamide, which acts so well when given by mouth, be so often injected hypodermically, intramuscularly, or intravenously?

We have received from Messrs. T. J. Smith and Nephew, Limited, the eighth edition of *Elastoplast Technique*, which describes the various uses to which elastoplast can be put, and also the fourth edition of *Cellona Technique*. Both these small volumes are well illustrated, and can be obtained on application to Smith and Nephew, Limited, at Neptune Street, Hull.